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House in South Audley Street, W.: View showing Additions to Rear.
MR. SYDNEY E. CASTLE, F.R.I.B.A., Architect.

MEETINGS

FRIDAY, *April* 21.

Royal Sanitary Institute. Mr. W. Boulton Smith on "Difficulties in the Administration of By-laws and Regulations." At the Town Hall, Dover. 4 p.m.

London Society. Dr. James Fenton on "The Romance of Public Health." 5 p.m.

MONDAY, *April* 24.

Royal Institute of British Architects. Messrs. H. V. Lanchester and Percy E. Thomas on "Competitions: Past and Present." 8 p.m.

TUESDAY, *April* 25.

Institution of Structural Engineers (Yorkshire Branch). Annual General Meeting. At the Hotel Metropole, Leeds. 7 p.m.

Institution of Civil Engineers. Mr. H. C. E. Cherry on "Influence of Earthquakes on Structural Design"; Mr. F. W. Furkert on "Effect of Earthquakes on Engineering Structures"; and Mr. J. J. Booth on "Design of an Earthquake-resisting Structure: the Dominion Museum, Wellington, N.Z." 6 p.m.

WEDNESDAY, *April* 26.

National Housing and Town Planning Council. Annual Conference of Local Authorities for Lancashire and Cheshire. At the Town Hall, Manchester.

Institute of Landscape Architects. Mr. A. B. Knapp-Fisher on "Preservation of Rural England." At the Horticultural Hall, S.W.1. 3.30 p.m.

Institution of Structural Engineers (Scottish Branch). Mr. W. B. Scott, Junior, on "Problems in Steelwork Design." At 129, Bath-street, Glasgow. 7.30 p.m.

Liverpool Architectural Society. Annual General Meeting. At Bluecoat-chambers, School-lane. 5.30 p.m.

THURSDAY, *April* 27.

Architecture Club. Discussion on "Should Buildings have an Age Limit?" At the Architectural Association. 7.30 p.m.

Institution of Structural Engineers. Mr. A. B. Dailey on "Reinforced Concrete Staircases." 6.30 p.m.

FRIDAY, *April* 28.

Town Planning Institute. Discussion on the "Town and Country Planning Act, 1932." 6 p.m.

MONDAY, *May* 1.

Architectural Association. Mr. Nigel Norman on "Aerodrome Design." 8 p.m.

MONDAY-THURSDAY, *May* 1-25.

Architectural Association. Exhibition of the Progress of Air Travel. 10 a.m.-10 p.m.

THURSDAY, *May* 4.

Society of Antiquaries. Dr. H. O'N. Hencken on "Excavations at Chysauster, Cornwall." 8.30 p.m.

SATURDAY, *May* 6.

Institution of Municipal and County Engineers. South-Eastern District Meeting. At the Municipal Buildings, Bromley. 11.30 a.m.

MONDAY, *May* 8.

Royal Institute of British Architects. Annual General Meeting. 8 p.m.

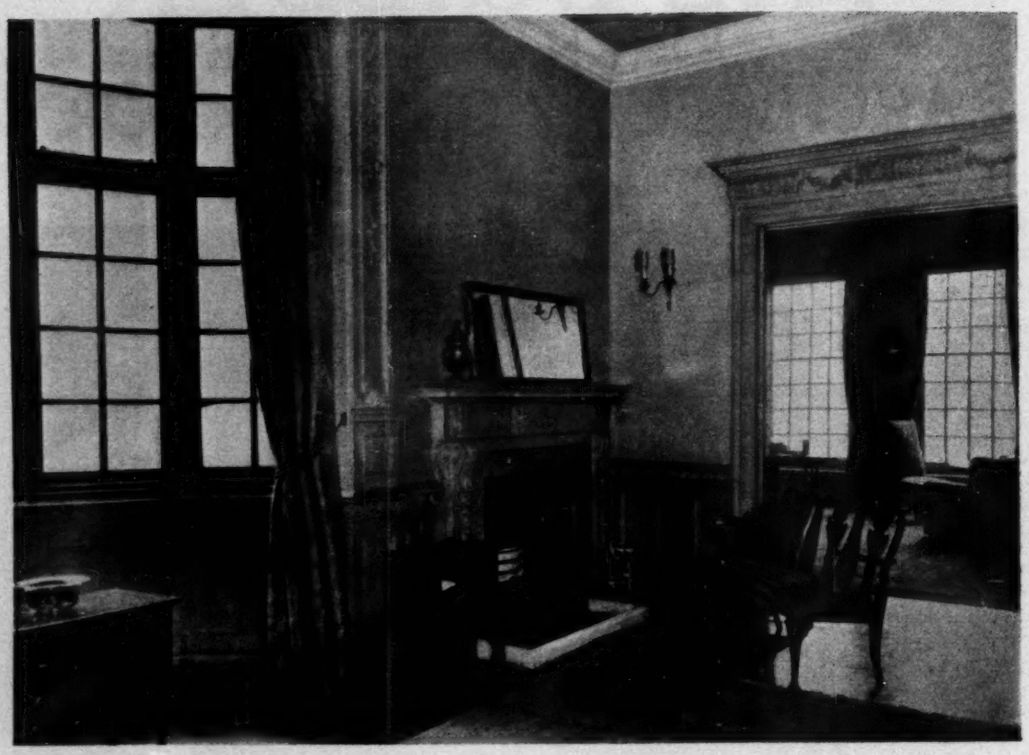
THURSDAY, *May* 11.

Architectural Association. 85th Annual Reception by the President, Mr. A. B. Knapp-Fisher, and Mrs. Knapp-Fisher. At 34, Bedford-square, W.C.1. 8.30 p.m.

Society of Antiquaries. Mr. C. Leonard Woolley on "Excavations at Ur." 8.30 p.m.

WEDNESDAY, *May* 17.

Royal Society of Arts. Professor Maiuri on "Recent Excavations of Herculaneum and Pompei." 4.30 p.m.



THE LOBBY TO HALL, SHOWING NEW BAY.

THE "DEN."

House in South Audley Street, W.: Alterations and Additions.

MR. SYDNEY E. CASTLE, F.R.I.B.A., Architect.

SURVEYORS AND SMALL WORK

OUR correspondence columns frequently ventilate subjects which are of such general interest that the problems presented cannot be left to the correspondents to determine among themselves. We have had debates which have dealt fairly fully with a subject which has recently called forth further correspondence, and as each has been to some extent indeterminate we think it well to deal with the matter in a non-partisan spirit. The question at issue is whether bills of quantities are suitable for small work.

We have had letters expressing opinions wide apart as the poles, and it is time some attempt were made to determine the real merits of the case; and to assess these with justice we must approach the subject along certain definite lines. The real points we have to determine are—(1) Whether the cost of tenders based on bills of quantities prepared by independent surveyors is relatively high for works below a certain value; (2) whether any such discrepancy would be lessened if practice were more uniform; (3) whether the quantity surveyor's fees are too high; and (4) whether anything can be done to simplify the process of surveying upon small works. These are not subjects for political controversy, but are matters of public concern in our quest for the right way of doing the right thing.

With regard to the first item, we have before us opinions reinforced with cited cases which appear to prove diametrically opposite conclusions. One correspondent has quoted a case where a tender for £2,200 on quantities was reduced to £1,450 when the quantities were withdrawn and a few minor omissions made. Another claims that the surveyor saves the client 5 per cent. How can these things be reconciled? On the face of it they are irreconcilable; although with some knowledge of divergent practice it is not difficult to account for the discrepancy. In some districts in England and Scotland it is the invariable practice to provide bills of quantities for all works, big and small, and where the custom persists, there is no doubt that a bill of quantities from a reliable source is regarded as a safeguard to the builder rather than as an unexploded mine.

In other districts where the custom does not prevail, a bill of quantities to the small builder is a mysterious document that may contain untold dangers and penalties. To ask for tenders on such a basis from men who are strangers to the system is to expect alarming figures, which quickly fall away when the strange instrument is withdrawn.

As things stand, therefore, the answer to the first question is: "Yes, if the provision of bills of quantities is not current practice in the district"; and "No, if such provision is current practice." These answers fall short of the degree of satisfaction one expects in reply to a plain question.

This introduces the second question dealing with the point as to whether the discrepancy would continue if practice were more uniform. There is no doubt that if it were known that all jobs would be priced on bills of quantities, the equipment of a builder's establishment would be very different from that necessary where firms must be prepared to take off their own quantities upon a number of jobs of substantial value. The estimating department of a builder's office is no inconsiderable part of his establishment under such circumstances, and its cost must be spread over all jobs secured over a period. Uniform practice would undoubtedly level things down to a nearer approach to real values.

But this does not settle the question whether under such uniform practice the level of tenders would remain relatively at current values, or whether the uniformity would be achieved by a general upward tendency. We have therefore to see whether the surveyor's services are (*a*) unreasonably profitable to the surveyor, and (*b*) too costly for their value.

As to the first point, we must not set one profession against another by comparing the time and responsibility which an architect must offer in return for a similar proportion of fees; for such an argument merely opens up the other extreme where it can be shown that men in other classes of business are able to earn in the same time many times more than either surveyor or architect can ever hope to earn. Odious comparisons lead us nowhere. The fair conclusion is that whereas the surveyor's fees have been established for many years without question as to their fairness upon large jobs, it is obvious that upon the small job the same proportion is relatively rather less than more profitable.

The second question is more to the point, and we must frankly ask ourselves whether a conscientious and thorough bill of quantities upon a £500 cottage is likely to save the client £12 10s. in economies apart from any the architect may achieve by orderly planning and simple construction. If we add together the fees of the architect and surveyor to a figure of £42 10s., ignoring any sliding scales which might operate further to increase this total, it seems we shall have great difficulty in showing that this substantial charge for professional services rendered does not increase the out-of-pocket cost to the client. On the other hand, if something could be done to cheapen these services in a way that would enable a builder to make his lowest offer with a minimum of risk and a minimum of duplicated labour, we should be making a real advance towards a more general acceptance of professional services.

A correspondent has suggested that the full and detailed operations of a quantity surveyor do not have a scientific effect upon the small job, and that much of their complication might be omitted in such work. He suggests that if a number of firms tendering for a small job were provided with the bulk quantities only, they would have sufficient information with which to put forward a reliable price: and explains that these bulk quantities would mean the net quantities of brickwork, flooring, plastering, roofing, etc., without the various labours and details. He then suggests that this information could be profitably collected by a surveyor at a low fee which would not kill the job, and that such information would be of assistance rather than a matter of alarm to the small builder.

Whether there is a practical suggestion in this is a matter for those directly interested to consider, and we merely quote it as an instance of constructive thought in a new direction, aiming to enlarge the professional field in a businesslike way, which shall give a maximum of service to the public. We believe that it is more likely to be useful if those who desire reform would think along some such lines as these rather than be sidetracked into unprofitable discussions as to whether certain professions are necessary parts of the industrial machine, and whether the professional men earn more than they are worth.

NOTES

Working-Class Houses and the Panel System.

We note that in the House of Commons recently, Mr. Alfred C. Bossom, M.P., F.R.I.B.A., asked the Minister of Health "whether he intends making any arrangements to ensure that working-class houses which may be financed largely by building societies, as contemplated in the recent Housing Act, shall be required to maintain a higher standard of appearance and design than has frequently characterised many houses so financed in the past?" To which the Minister replied:—"I understand the building societies and local authorities to be well aware of the importance of maintaining the improvement of standard of houses for the working classes, which has been secured in recent years." Mr. Bossom then followed this up with a supplementary question:—"Is the right hon. gentleman prepared to ask them to comply with the recommendations made by the panels set up by the Royal Institute of British Architects?" The Minister of Health expressed his willingness to consider any suggestion Mr. Bossom might have to make in this connection. We give prominence to the above in the belief that the time is ripe for a real effort to create public opinion favourable to the employment of panel architects, as far as possible.

Housing for the very Poor.

There is truth in the statement that what we urgently want is a larger number of working-class houses rather than the wholesale pulling down of houses. As Dr. C. Killick Millard says, overcrowding constitutes the most urgent problem of to-day. Both inside and outside the slums this overcrowding exists. The persistence of control is to some extent responsible for the high rates of such houses as become decontrolled. We are beset by difficulties in finding sufficient houses of low enough rent to house the very poor. There ought surely to be some encouragement for the provision of better-class houses, but we want very many more at such a rent as the very poor can pay, and there can be no hope that the improvement or clearance of slums will meet all the needs of the situation. With expert handling of the cheap building which can be had to-day the problem might well be overcome.

Rural Housing.

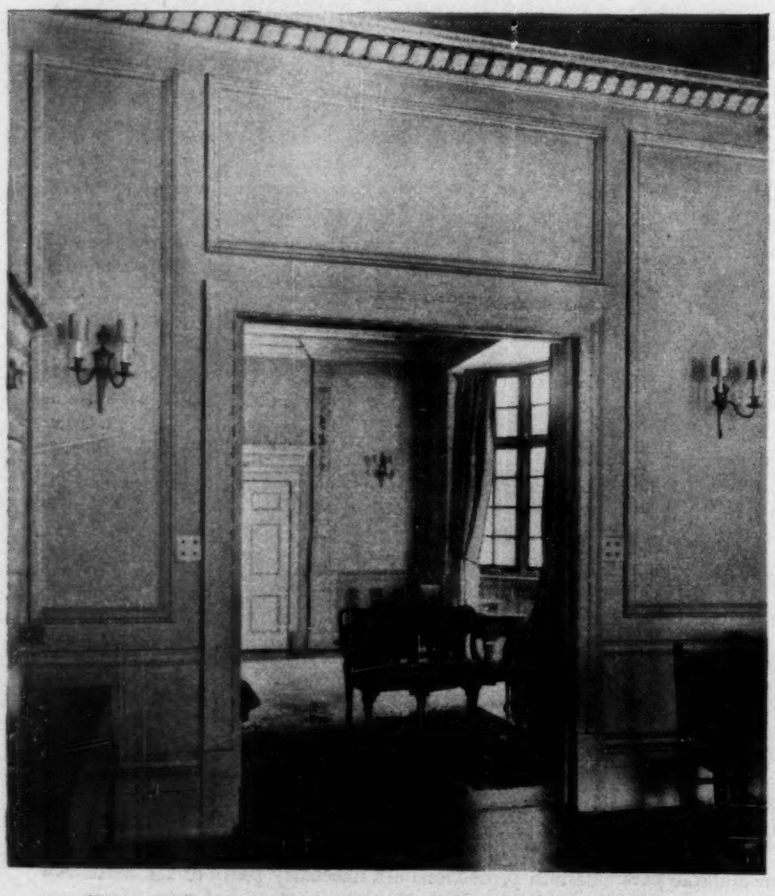
Besides his assault on the slums, Sir Hilton Young, the Minister of Health, is intending to ask County Councils and Rural District Councils to make much more use of the opportunities provided under the Housing (Rural Workers) Act. This has been extended so that the grants are available until 1936. The value of this Act up to the present has not been fully realised. It was introduced by Mr. Neville Chamberlain in 1926, when he was Minister of Health, in order to help owners to reconstruct or improve dwellings or buildings so that they may be tenanted by agricultural workers, or persons in substantially the same position as agricultural workers. A grant of not more than £100 per dwelling may be given, and also loans for a period of 20 years are offered. No assistance is available if the value of the dwelling, after the completion of the proposed works, is more than £400; or if the estimated cost of the works is less than £50 per dwelling or unless the dwelling, after the works are carried out, will be in all respects fit for habitation.

The Guardianship of Scottish Beauty.

It is interesting to read of the activities of the Association for the Preservation of Rural Scotland, the report of which, for 1932, is now before us. Where there is so much of beauty and interest, as in the Scottish countryside, it must be an almost Herculean task to oversee and control the activities of those who, for interest or profit, may endanger it. We may safely assume that those into whose hands the Association may commit the future guardianship of Scottish natural beauty will be well guided in their efforts. The aim must be to secure for the public as much of the natural beauty as possible and prevent the eyesores that ill-placed engineering works often constitute, and in especial the formation of ill-designed roadways.

The Northern Polytechnic Speech Night.

Lord Crawford's wise and witty speech at the Northern Polytechnic's Speech Night, on April 6, was an almost perfect example of how a speaker to students may avoid falling between the twin stools of sententiousness and flippancy. Without in any way detracting from the efforts of the prize-winners, the point was made that the real value of technical education comes from "staying the course." The value of making an intelligent study not of the craft only but of human nature as well was emphasised. Every student—prize-winners and otherwise—must have had fresh heart and determination put into him by that friendly speech. The Department of Architecture, under Mr. T. E. Scott, A.R.I.B.A., has had a most successful year. From the school have come finalists for the Soane Medallion and the Rome Scholarship in Architecture, while Mr. Denis Harrington, who gained the Bossom Travelling Studentship, is a past student. In addition to this, and not less important, the Evening School has been extended "Recognition" by the R.I.B.A., the first Evening School to earn that distinction. Thus it will be seen that the School, in spite of slightly depleted numbers, is continuing to make the right kind of progress—a fact upon which Governors, staff and students deserve hearty congratulations.



House in South Audley-street, W.: The Lobby as altered.

Mr. Sydney E. Castle, F.R.I.B.A. Architect.

Offices for an Aviation Company, Hayes, Middlesex: A Corridor.

MESSRS. GOODWIN AND CHAPMAN, A.R.I.B.A., F.S.I., Architects.

(*See page* 657.)

The Upkeep of Buildings.

AT this time of the year it should be remembered that it is a mistaken form of economy to neglect the proper upkeep of buildings. The call for economy often leads to a neglect of essential work for the proper upkeep of roofs and the adequate protection of buildings by the necessary application of paint to exposed timber. The houseowner must often realise how foolish is much of the ornamental work, such as barges and brackets, which, curiously, are so largely in evidence in seaside properties. We have learnt much in recent years of the advantages of a simpler style of building, which is a benefit both from an economical and artistic standpoint.

Verminous Council Houses.

MANY local authorities are inquiring into methods of dealing with verminous conditions of Council houses. This is an important question from the point of view of the contractor responsible for building the houses, as well as from that of the ratepayers. In one large County Borough over 30 per cent. of the houses erected by the Council since the War have been found to be infested with vermin. Even on some of the London housing estates, where the tenants have been most carefully selected, the infestation is at least 3 per cent. This evil is causing so much expense and trouble that it is now being seriously combated in many districts. The method adopted by the Public Health Department of the Glasgow City Corporation is probably the most effective. Whenever a tenant of a Council house is selected, his present home is inspected. If there is any reason to think that this is bug-infested, drastic instructions are given to the tenant to wash with soap and water his furniture and pictures. A second inspection is made about a fortnight later, just before the tenant is being transferred, and the tenant and his family are not permitted to move into a Council house unless the inspector is perfectly satisfied that all the necessary steps have been taken. In many cases there is a further inspection of the tenant after he has settled into his new house, where further remedial measures are taken should there be any reappearance of vermin. At first sight all these inspections may seem to involve undue labour, but so grave has the evil become that this is said to be the cheapest and most efficient means of prevention, and of checking the extension of the evil. Recently in London the Metropolitan Branch of the Society of Medical Officers has been asked to consider the problem.

"Dwelling Machines."

WE are informed that in Russia the latest housing programme includes the building of large block dwellings, each accommodating about 3,000 persons, to be used only for sleeping. The isolated home is to disappear. The rooms are to be arranged in series according to their particular functions. There will be rooms for the married and unmarried, for reception, dining, lectures and study. There is to be no private ownership of furniture. Already Moscow, built originally for a population of 2,000,000, is having to accommodate a rapidly increasing population officially estimated to be nearly 3,500,000. As a result, every inch of space is now to be used. On many of the existing buildings an extra one or two floors have been added in order to try to provide for the increase.

A Spectacular Stonelaying.

SOMETHING new will be provided at the ceremony of stonelaying at Liverpool Cathedral by Sir Edwin Lutyens's scheme of a lofty pavilion, which will provide a high altar some 83 ft. high, approached by wide and lofty flights of steps, in front of which will be seating capacity for 15,000 people. A good view will be obtained over the whole of the 9½ acres site.

Reconditioned Cottages in Devon.

THE illustration which we reproduce is of a cottage in Devonshire that has been structurally altered and repaired. The photograph has been lent by Mr. Percy Morris, the County Architect of Devon, who has been the mainspring of the success of this Act in Devonshire. Devon has done more work in the reconstruction of cotcages under this Act than any other county in Great Britain. Up to the end of last year over 800 cottages had been reconditioned, at an average cost of £193 18s. 3d. It is important to note the conditions that apply for twenty years after the completion of the works with the help of the grant. The dwelling must be occupied by a person, whether as owner or tenant, who would not ordinarily pay a higher rent than that paid by agricultural workers in the district. The rent must not be more than the ordinary agricultural rent, or the average rent paid during the previous five years, with the addition of 3 per cent. on that part of the cost of the works which was not covered by the grant. In the case of reconditioned cottages in Devon, similar to those shown in the illustration, the average rent charged is slightly less than 4s. a week.

Officialdom.

THE proportion of officials in the white population of South Africa was equal to one in ten a quarter of a century ago, said the late J. N. Merriman. So that we have the curious fact that one white man in every ten was engaged in the government of the remaining nine! The proportion may be greater now, and thus we have it stated that "the greatest menace to our modern civilisation is the growth of officialdom." There is something wrong in such a state of things, and our contemporary, *The Architect, Builder and Engineer*, of Cape Town, does well to call attention to it. Things cannot be any worse in South Africa than in this country, where officialdom has made threatening strides within recent years.

A Reconditioned Cottage, Devonshire.

GENERAL NEWS

Professional Announcement.

Messrs. Fitt and Prior-Hale announce that as from Wednesday, April 12, practice will be carried on at Bedford-row House, 58, Theobalds-road, London, W.C.1. 'Phone number remains unchanged: Holborn 4433.

Proposed New College, Aberystwyth.

At the annual general meeting of Aberystwyth Old Students' Association at Aberystwyth a committee was appointed, with plenary powers, to raise funds towards the erection of new college buildings on a site recently purchased and presented to the college authorities by Mr. Joseph Bryan.

Brighton Clock Tower.

It is learnt that Brighton Council is to consider at its next meeting a proposal for the demolition of the clock tower. This tower, which was a gift to Brighton by the late Mr. James Willing, was erected in 1888 to commemorate Queen Victoria's Jubilee, and its removal is sought in view of modern traffic conditions and the narrow roadway which the tower creates.

A By-pass Road.

It should be a matter for some satisfaction that the old town of Shrewsbury will be saved from the bad effects of much heavy modern traffic by the completion of the new Shrewsbury by-pass road, which will be opened by the Princess Royal on May 23. It has cost approximately £150,000, and is four miles in length. It taps the London-Holyhead road east of Shrewsbury, and will carry Midlands to North Wales traffic to a point some two miles west of the town, just before the divergence of the main roads from Shrewsbury to Mid and North Wales.

New Bridge, Hampton Court.

Part of the new bridge over the River Thames at Hampton Court has been brought into use. The bridge, which replaces one of iron, erected as a private venture seventy years ago, has been designed by Sir Edwin Lutyens. It is in three spans, the arches being of reinforced concrete faced with Portland stone, and warm red brick. After the completion of the new bridges at Twickenham and Chiswick, the official opening of the new bridge will take place.

R.I.B.A. District Surveyor and Building Surveyor Examinations.

The R.I.B.A. Statutory Examination for the office of District Surveyor under the London Building Act, and the Examination for the office of Building Surveyor under Local Authorities, will be held at the R.I.B.A., London, on October 11, 12 and 13. The closing date for receiving applications for admission to the examinations, accompanied by the fee of £3 3s., is September 20. Full particulars of the examinations and application forms can be obtained from the Secretary, R.I.B.A.

The Foundling Estate.

It is announced that the controlling interests in the Foundling Hospital site, in Bloomsbury, has been acquired from Foundling Estates, Ltd., by Sir H. Mallaby-Deeley. This does not, of course, include those portions of the central space now belonging to the Foundling Site Appeal Council. On behalf of this Council, the following statement has been issued:—"The Foundling Site Appeal Council warmly welcome the announcement that the whole of the Foundling Hospital Estate has been acquired by Sir Henry Mallaby-Deeley, and especially the statement that he is in full sympathy with the object of preserving the open site and buildings as a centre for child welfare. They hope to enter into personal touch with Sir Henry after Easter with a view to ascertaining his further wishes in the matter. Another announcement will then be made."

An International Housing Bulletin.

The International Housing and Town Planning Bulletin contains an interesting illustrated report on the Planning of Industrial Areas in Great Britain, compiled by Mr. H. Chapman from information supplied by a number of areas. Particulars are given regarding sizes of plots, types of factories and industries, transport facilities, provision of public utilities (gas, water, power), etc., labour supply, relations between the industries in the area, planning of the area and arrangement of railway tracks, methods of disposing of land (sale, lease, etc.), building restrictions, relation of industrial area to residential areas, sources of supply of raw materials, etc. The Bulletin also contains a short report of Town Planning Education in Denmark. Each report is in English, French and German. Particulars regarding the Bulletin and membership of the Federation can be obtained from the International Federation for Housing and Town Planning, 25, Bedford-row, London, W.C.1.

Illuminated Signs at Oxford.

Oxford City Council has decided for the present to abandon the clause in its Parliamentary Bill which placed restrictions on the use of illuminated advertisements. With the object of preserving the amenities of the city the clause was intended to make it illegal for anyone without the consent of the corporation "to erect or place illuminated advertisements which flash or are at intervals extinguished or lit and relit on any buildings or structure" in or adjoining any street. The clause was opposed by the Cinematograph Exhibitors' Association of Great Britain and Ireland, and it has now been decided, says *The Times*, to delete it, with an intimation to the Association that this step is without prejudice to any action the corporation may take in the future to achieve the same object.

COMPETITION NEWS

A Belfast Sanatorium Competition.

Subject to the approval of the Corporation, the Belfast Tuberculosis Committee have decided to invite designs from architects in Northern Ireland for the proposed extensions to the Municipal Sanatorium and the Municipal Hospital for Tubercular Children.

CURRENT COMPETITIONS

	Particulars published in "Builder."	Sending in date.
Municipal Offices and Baths, Prestwich, for Borough Council. Premiums of £200, £100 and £50. Mr. A. Graham Henderson, F.R.I.B.A., assessor	March 3 } March 17 }	May 8
Royal Society of Arts' Competitions in Industrial Design. Scholarships and prizes to value of £1,500. Details from Secretary, John-street, Adelphi, W.C.2	Feb. 24	May 20
International competition for layout of land on left bank of River l'Escaut, Antwerp, for Société Intercommunale de la rive Gauche, rue Arenberg 26, Antwerp, Belgium. Premiums of approx. £4,350, two of £2,175, and four of £1,087. Assessors include Dr. H. P. Berlage. Programme (fr. 20) and plans (fr. 80) obtainable from Société, but to be seen by callers at *The Builder* office	Dec. 2	May 31
For flats, at Lordship-terrace, for Stoke Newington B.C. Limited to five architects. Sir Robert Tasker, V.P.I.A.A.S., assessor. Premiums, £250, £100 and £50	March 24	—
Town Hall, Hornsey, for B.C. Mr. C. Cowles-Voysey, F.R.I.B.A., assessor. No conditions yet available	March 31	—
Council offices, Slough, for U.D.C. Mr. H. S. Goodhart-Rendel, F.R.I.B.A., assessor. Premiums, £150, £100 and £50. No conditions yet available	March 31	—
New hospital, for Surbiton Hospital. No further applications admissible. Mr. C. Ernest Elcock, F.R.I.B.A., assessor. Premiums, £120, £75, £50 and £25	March 3	—
Town Hall, Portstewart, for U.D.C. Mr. R. H. Gibson, P.R.U.S.A., assessor. Premium, £52 10s. Open to architects practising in Northern Ireland	April 14	—

WHAT LONDON MIGHT BE

THE last lecture in the series on "How to Look at London," organised by the R.I.B.A., was given by Mr. A. B. Knapp-Fisher, F.R.I.B.A., at 9, Conduit-street, W., on April 12.

The lecturer gave his audience two alternative possibilities for the London of the future—one, a London, ugly, undeveloped and uncontrolled; the other a London as we should like it to be, planned and preserved and still retaining its essential character and individuality. Upon imaginative building and planning, he said, the whole social fabric was dependent, and the secret of London as it might be lay in the evolution of a comprehensive plan, which was the common concern of every man in the country.

The lecturer briefly traced the history of the growth of London from the time of the Romans up to modern times. He touched on the history of town planning in Elizabethan times and in the days of Christopher Wren and John Evelyn, the great architecture of the eighteenth century and its legacy to London, and on the appalling architectural results of the Industrial Revolution, finally attacking the modern spirit of commercialism and vulgarity which is slowly ruining the London of to-day. As an example of the unimaginative folly and lack of foresight of the present times, he quoted the great new arterial roads, which were made all over the country without any proper provision for what would be built on either side of them and which had resulted in the worst type of suburban and rural disfigurement.

The absolutely essential improvements which must be fought for in the London of the future were, said the lecturer, that we should have a London without smoke; with less noise; fewer vulgar, inappropriate and disfiguring advertisements; no slums; better all-round planning; better building; more intelligent lighting; and no disfiguring petrol-stations. With each of these points he dealt in more detail, and in particular he said that what London might be was "first and foremost a city without slums." We wanted desperately badly a comprehensive plan; sporadic and piecemeal attempts to regulate development, however excellent, were not enough. This plan should come, and very shortly, if the public was sufficiently aware of its responsibility. Planning should not be an affair only for experts and architects, but a political and national question.

Dealing with solutions for specific problems, the lecturer said there were several magnificent opportunities for future planning, namely, the development of airports, the planning of the south side of the river, the new Charing Cross Station, and the utilisation of space at present taken up by railways in London. He demanded that we should have better traffic facilities, that our old squares should be preserved or redeveloped successfully, that the height of our buildings should be controlled, and above all, that we should hold on to our open spaces. The buildings of the London of the future, he said, should be clearer, cleaner and simpler—an architecture which was a synthesis of function and spirit.

OBITUARY

Arthur T. Dale.

We regret to record the death, at his home, Snaresbrook Hall, Snaresbrook, Essex, on April 7, of Mr. Arthur T. Dale, F.J.I., governing director of Dale, Reynolds and Co., Ltd., editors and proprietors of technical journals, etc., of Cannon-street, London, E.C.4.

James McMullen, F.R.I.B.A.

The death has taken place of Mr. James McMullen, F.R.I.B.A., F.R.S.I., of Cork, one of the leading architects in Southern Ireland. He specialised in church architecture, and many churches and hospitals in Ireland have been built to his designs. For some years he acted as City Engineer of Cork, and in 1908 he was High Sheriff of the city.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

"Permanence in Buildings."

SIR,—A recent leading article in your valuable paper on the subject of "Permanence in Buildings" deals with a question on which much may still be said. Firstly, is it by any means certain that in ancient or even mediæval times permanence has always been the aim in buildings of the lesser kind? The fact that so few examples of this type of building have survived indicates that they were not constructed to last for centuries, but built to satisfy the needs of the moment, of such materials as wood, wattle and daub, or other non-permanent materials which find their counterparts to-day in a variety of materials which could be utilised except for existing (and no doubt admirable) building laws and regulations.

If we take the trouble to study the essential needs of the average man to-day, it is impossible to say that "permanence" in building or, for that matter, in anything else is one of them; the existing state of uncertainty and the way in which people constantly move about from one district or town to another, either from choice or of necessity, calls for a complete revision of the pre-war point of view and an unbiased review of the whole problem.

It appears to me to be particularly futile to complain of the low standard, both in planning and appearance, of the speculative builders' work if we make no effort to grapple with the problem with which we are faced. And for heaven's sake let us have done with pre-war shibboleths and prejudices!

We hear a good deal of the dangers which would result if building laws were relaxed to make such purely temporary dwelling-places possible. But if it was made an essential condition that "consent" would only be given where a competent architect was employed, both to prepare the design and supervise construction, these forebodings need not be taken seriously. I believe that it is not beyond the power of modern architects to design and carry out comfortable and good-looking little temporary homes—on rough-casted wallboard, metal lathing or any other material, which would be much cheaper (and certainly more attractive to look at) than many of the "villas" which now line our main roads.

And when our small clients had made a bit of money there is at least the reasonable hope that we should be commissioned to design a more permanent house to take the place of the temporary lodging, which would have served its purpose.

H. P. CART DE LAFONTAINE.

"A Policy for Art."

SIR,—I have read with very great interest and pleasure your fine "leader" on this subject. In one sense everyone is entitled to express an opinion, but the value of an opinion depends on the disinterestedness of the critic, together with his ability, training and experience, proved by accomplished deeds or by wise counsels, recognised by his fellow men or at least recognisable by intelligent human beings.

To put it bluntly, sincerity and conscientiousness are the great needs of the world of art as in every other department of human affairs. The percentage of persons who are sincere and conscientious and who are misguided, is small. Their sincerity plays its part even if they are somewhat misguided.

Your able remarks on the R.I.B.A. policy touches a very important aspect of the problem, and it is certain that until we have a clear majority for first principles and absolutely disinterested opinions and actions, we are not likely to get out of our present chaos easily or soon. We have ourselves largely to blame as a profession, if not as individuals. We always seem to arrive at the right conclusions about ten years too late, if not more.

As you state, Sir, "a pan-Architectural Conference of artists, in which a fearless exchange of views, an open mind, and a determination to do all in human power to bring harmony into chaos must bear fruit."

The sacrifice of ourselves as individuals—that is, of our individual tricks by which we may have achieved so-called success in our own particular line—at the expense of downright honest sincerity, all this must be related to right training and experience, for in our inmost hearts most of us clearly recognise the men who are out for the right and best in all things.

If it can do it—or rather if it will do it—the duty of the Institute is clear. It must get rid of its official mindedness, which is trammelled by precedent, political expediency and fear to sacrifice certain individuals.

S. T. A. R.

The Value of the Surveyor.

SIR,—I have to thank Mr. Sidney Sanders for his views on this subject. His question is obvious, of course, and I expected it to be asked sooner or later unless some question of professional etiquette was involved.

I am not in the habit of questioning the fees of a member of an allied profession, as I have been assured by lawyers that it is a most unprofessional proceeding to do so.

The actual sum paid to the surveyor in question was £70. On his own initiative he reduced the sum from £100 to £70, as he knew that his schedules were not used, and that the work was carried out for the sum named—£1,450.

As Mr. Sanders states—much depends on the architect and client. In this case the surveyor was a first-class man whose detailed schedules were marvels of perfection. Hence the fee, probably. From this we may assume that the drawings and specifications were average at least.

As Mr. Sanders now tells us that surveyors are not seeking small jobs, we may accept his statement that they are unprofitable—financially. The architect and surveyor, therefore, in this case, having arrived at the same conclusion, for different reasons, it may be presumed that nothing more need be said, although Mr. Sanders still considers the services of an independent quantity surveyor desirable.

WILLIAM DAVIDSON.

The Housing Bill.

SIR,—By stating in my letter that Mr. E. Boulton, puts housing subsidies at something like £100 for each house, and obviously wishes us to believe that, the builders receive such amounts as either profit or in addition to profit, he was presented with an opportunity of removing any misapprehension I might have been under as to the exact meaning he wished to convey. He returns to the charge and claims that he is supported in the uncontradicted pronouncements made by the Ministers of Health in the House of Commons on the strength of investigations made by experts and facts and figures compiled by them over a series of years.

It would be a mistake to suppose that the Ministers of Health made statements bearing this interpretation. They have, in point of fact, claimed that the subsidies were not entirely passed on to the purchasers of houses by way of reduced building costs, and indeed on several occasions have stated that subsidies had tended to increase rather than to lower building costs. They have said a good many foolish things about building, as most thoughtful readers of *The Builder* will readily agree, but never anything so wide of the facts as that speculative builders, on the average, received the whole of the subsidies as an addition to their clear profits.

Mr. Boulton claims to have been in close touch with speculative builders for 25 years and to have 40 years' experience of building, from which I gather that I am in slight seniority to him. My own experience leads me to believe that could speculative builders, during the period in which the subsidies ran, have counted on reaping an average profit of £50 clear on each house they would have been more than satisfied. Far from realising even that modest amount, many of them have lost heavily, and it is common knowledge that some of the estate development companies are in grave difficulty.

J. R. TAYLOR.

Heating and Ventilating Flues.

SIR,—"Building Surveyor," in his interesting article of April 7, draws a very proper distinction between cases in which flues are necessary for gas appliances and cases where they are not essential. When he alludes to gas-heated radiators as needing only a flue of very small area, I presume that he has gas fires in mind. The term "gas-heated radiator" is usually applied to a heating appliance which is specially designed for use without a flue. Great attention has been given to the design of these radiators to ensure that the combustion of the gas is of a high order. These heaters are not, as a rule, recommended for the warming of living-room or bedrooms, but they are quite useful for entrance halls, shops, factories and public buildings.

"Building Surveyor" refers, further, to the drawbacks of down-draught. This should not be a real difficulty, as it is quite easy to prevent temporary down-draught interfering with the combustion of the gas, which is the main point to consider. As your contributor points out in the latter part of the article, the use of a baffler is an effective safeguard against down-draught so far as water-heating appliances and certain other appliances are concerned. Gas fires, of course, can usually be fixed so that down-draught does not occur at all, but if in certain places it should occur temporarily when the wind is in a certain direction, the construction of the fire itself definitely prevents any interference with the combustion. Your contributor rightly makes a special case for the geyser. This is a useful, efficient and powerful appliance, burning gas at a considerable rate, although for only a short time, and should never be fitted without a flue. So far as the gas industry is concerned, the use of a flue with geysers is "compulsory." No gas undertaking would associate itself with a flueless geyser.

According to "Building Surveyor," "it is important to give a flue as much vertical height as circumstances will permit." This would not, I think, be good practice in all cases, and your contributor is evidently aware of this, judging from the remarks in the last paragraph of his article, where he says that the baffler should be fixed at a point between one and two feet above the top of the appliance.

While it is true that given a sufficient amount of flue heat to maintain the column of flue gases at a temperature substantially above that of the atmosphere, the longer the flue the better it is able to oppose down-draught, it is also true, as your contributor points out, that the "expelling force" must always be small in relation to the force created by wind.

From a practical point of view it would seem that three things are necessary in meeting adverse wind conditions, namely, (1) a good position for the terminal, (2) a good type of terminal, and (3) an effective baffler.

"Building Surveyor" stresses the importance of using effective flue fittings, such as terminals and bafflers, and he no doubt knows that there are some very effective fittings available now. He is right in recommending that, as a general rule, the baffler should not be nearer than 1 ft., nor more than 2 ft., above the top of the water-heating apparatus, and he gives sound advice when he condemns the fixing of bafflers outside the building.

This Association is prepared to advise anyone interested in the subject as to the types of baffles and terminals that have proved, upon test, to be effective.

J. C. WALKER,
General Secretary.
British Commercial Gas Association.

PRESTWICK COMPETITION

BURGH CHAMBERS, MUNICIPAL OFFICES AND PUBLIC BATHS.

By MEAGERON.

With less than a month to run in this competition, those entering will now be working out their final decisions and making their drawings. These notes, therefore, may be of service.

The conditions ask for drawings of half double-elephant size and make a welcome restriction that there shall be no borders. The lay-out seems to be of the first importance. While each building must reach a certain standard of planning, its relationship to the others must be very carefully adjusted. This is especially important in view of the small sum allowed for the proposed work.

The Site.

The answers to questions indicate that the site has virtually an all-round aspect, which means that the War Memorial and the Bank of Scotland building will form an important element in the grouping. The new buildings will be seen conspicuously from both Station-road and Main-street.

The fall in the site from east to west is considerable, but, fortunately, this seems to suit the most obvious grouping of the new buildings and suggests the normal procedure of planning along the contours. In the detail planning the levels dictate, to some extent, the location of the heating chamber, which in this case has to serve all three buildings.

It seems that the forecourt on Main-street might well be incorporated with advantage into the scheme for the general lay-out, owing to its considerable area. The Station-road frontage seems to offer more economical means of approach for cars.

It is doubtful if orientation is of great significance in this scheme, excepting for a few details, such as the engineers' drawing office (preferably north) and the rooms in the caretaker's flat. The advantages of outlook must remain more or less a hazard, as most competitors will not be able to go to see the site. On the other hand, if the site is treated as a quadrangle, prospect will be provided internally.

The Winter Garden.

With regard to the lay-out of the buildings themselves, the Winter Garden shows itself to be of far greater relative importance than appeared at first sight. If it must contain concert hall with stage, refreshment room, lavatories, chair-store and dressing-rooms, its total area will nearly equal that of the Burgh Chambers and Municipal Offices. Good approach to the Winter Garden seems essential, both for visitors and service, and the former might be either at the end or side for a hall of this size. Good outlook over the gardens would be an advantage, especially for the refreshment room.

The Burgh Chambers and Municipal Offices.

There are, of course, numerous ways of planning this accommodation, and there is abundant reference on the subject, but in this instance economy is undoubtedly the keynote. The accommodation must be confined to the most compact arrangement consistent with good proportion and, if possible, a sense of space should be created. This sense of space helps to give the right atmosphere of dignity for municipal offices.

The slope in the ground from one to the other side of the building immediately suggests opportunities which are capable of being handled. The caretakers' and service entrances need careful attention. An interesting feature of the plan may well be the large reception room. Competitors will remember how the winning scheme for the Peterborough Town Hall balanced such a room against the Council Chamber about a main axis. The close planning of the various municipal departments depends on the extent to which each is self-contained and planned with its rooms inter-communicating.

For economy of cube, the caretaker might best be placed on a mezzanine above certain of the first-floor rooms.

The Library.

This should offer no serious difficulties. Competitors will have their own views on the merits of top lighting as against side lighting; the former will probably allow of a lower room.

The Baths.

It seems quite open whether these should be on two or three floors, but the composition of this building with the others will influence competitors. It is usually cheaper to build upwards rather than outwards. Easy means of approach to and exit from the baths is very desirable.

The hot rooms of the Turkish baths are best placed in close proximity to the heating apparatus. They may be either directly above or alongside it. On the grounds of economy, the basement position is a probable one. Windows are not essential for the two hottest rooms.

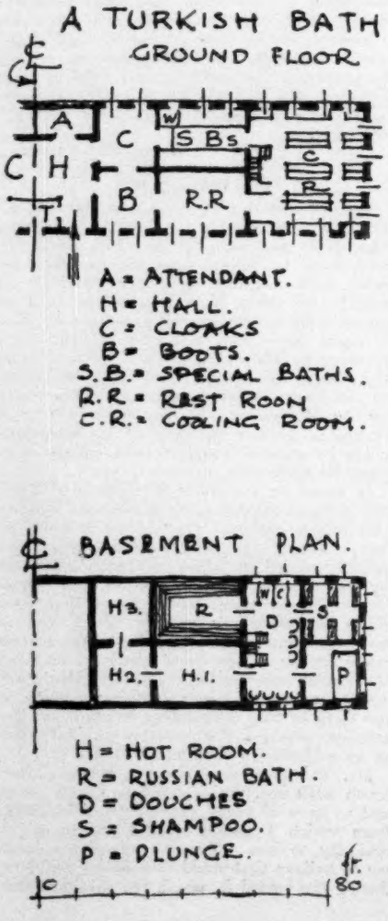
The planning of the Turkish bath suite should follow the usual precedent, allowing a bather to proceed through the various rooms and return to the rest-room after completing his bath.

The Russian Bath.

Very often the Russian bath (which consists of a small vapour closet) adjoins the first hot room of a Turkish bath suite, the idea being that it serves as a useful adjunct for the Turkish bather. In this case, it is doubtful whether the Russian bath would be conveniently placed in such a position, as one rather gathers that it may be wanted independently.

The Foam Bath.

The same applies to the location of this bath, which also should be placed in such a way that it is not on the direct circuit of the Turkish bath proper. The foam bath is an ordinary bath of the usual dimensions, and the foam is introduced into it by means of injecting air into a lather. Very often it is placed in the douche room, where it is easily supervised by the masseur. Such a situation seems quite economical and good.



The Plunge Bath.

It seems that each plunge bath has to be available for users of the foam bath and/or Russian bath, as well as the Turkish bath proper. Its position, therefore, should allow of its use in this way, again, without interfering with the Turkish bathers.

For plunge baths, top-lighting is considered best. The baths asked for are much larger than those usually planned in Turkish bath establishments, and this suggests that they might be used for ordinary swimming. If so, their positions in the building should receive very careful thought.

The Hot Salt Water Bath.

These are the ordinary slipper baths, and are much used. Generally an attendant's lobby adjoins each suite. Each group of baths may be contained in one room, partitioned into the requisite cubicles. Top lighting is the favoured method. To avoid the introduction of waiting-rooms (not specified in the conditions), the slipper bath accommodation might conveniently adjoin the main entrance-hall, which would then serve as a waiting-room.

The Artificial Sun Rooms.

These should be planned in a quiet and private position; the size is specified, and probably no ante-room is necessary.

It is felt that the winning design will be a combination of compact detail planning following up a good idea in the lay-out.

BOOK REVIEW

Historical Notes on Architecture. Compiled by R. Goulburn Lovell, Hon. General Secretary of the South-Eastern Society of Architects, Eastbourne. Baskerville Press. Price 3s. 1932.

This book summarises a series of public lectures delivered by the compiler in different towns in the counties of Kent, Surrey, and Sussex. A trial series of fully illustrated lectures proved a great success and led to a complete series being given weekly to the Thanet and the Hastings Schools of Art in connection with the Architectural Design Clubs of the South-Eastern Society of Architects. The lectures are presented in this form in the hope that they may stimulate further similar propaganda in the work of interesting the general community in its surroundings, and it has been arranged that collections of lantern slides and illustrations will be available for each lecture. The book is divided into short sections, each dealing with some historical period or aspect of the art, showing how national characteristics have influenced the development of historic styles. The intention behind it is to place the interaction of life with architecture in true perspective so that a practical end may be arrived at and an enlightened public opinion formed. This treatment through historical association stimulates a more lasting understanding than the array of academic and technical facts with which the would-be student has usually been confronted. The reader must not expect a book that can be read through as a complete work, but if he expects only what the book sets out to give he will not be disappointed. He will find admirably condensed and ordered notes upon which it will be his province to comment and enlarge in addressing his public. The title is, in one respect, a little misleading, because much of the most valuable material deals with the post-War period and such present-day problems as town planning, civic design, advisory panels, modern housing, and the like. We recommend the book with confidence to the public lecturer, no matter how wide or limited his previous experience.

FOUNTAINS ABBEY, YORKSHIRE

THE CHAPEL OF THE NINE ALTARS

By ARTHUR E. HENDERSON, F.S.A.

The Abbey of St. Mary of Fountains is situated in the lovely Valley of Skelldale, a few miles eastward of Ripon. This abbey is unique in possessing the architectural remains of the Chapel of the Nine Altars, which still remains a gem of pure Early English or "First Pointed" architecture.

The two pen-and-ink drawings show it, in the first place, roofless and stripped of its adornments; and, secondly, restored to what it was before the abbey was suppressed by Henry VIII, in 1539. This suppression caused the monks to scatter; the buildings were then sold, gutted, unroofed, and left to go to ruin; the lower portions became covered with crumbled and fallen débris, and what was dedicated to the glory of God fell into an awesome wilderness. About 140 years ago interest in Gothic architecture was awakening, and the ruin was made tidy, but it was not until as late as 1887-8 that it was put into a thorough state of preservation.

Fountains was founded by certain monks who seceded from the Benedictine Abbey of St. Mary at York in 1132 and who then adopted the sterner Cistercian rule. Quarries were opened at Skelldale, and a great edifice arose in the late Norman style of architecture. The abbey church was given a nave and aisles of eleven bays, projecting north and south transepts, each with three chapels to the eastward, which took the place of aisles. A central tower rose above the crossing and a sanctuary of three bays continued eastward.

The abbey flourished, but, having been hastily erected, it soon showed defects. Fire also did much damage, besides which the sanctuary was much too small for the growing number of brethren desiring to celebrate Mass at individual altars. Consequently, at the end of the twelfth century it was decided to embark on a great rebuilding of the whole of the eastern end, to provide for the needs of the brethren. However, building operations did not start until about 1211, and went on in a spasmodic way until 1219, when the work came into the competent care of Abbot John of Kent, who ruled from 1220 to 1247.

It should be remembered that just before this rebuilding Constantinople had been conquered, namely, in 1204, by the Latin Church, who ruthlessly despoiled the Byzantine churches, both there and in Palestine, of their treasure, and now the faithful were returning with thousands of relics, which were placed in pyxes, caskets or reliquaries. The owners donated altars for their safe keeping, and endowed Masses for their veneration, as well as for the repose of their own souls. Thus, Fountains, together with all other abbeys, cathedrals and churches, grew rich in treasure and income, much of which, in the particular case of Fountains Abbey, went to general rebuilding and increasing the number of altars.

The eastern end of the church was now given the form of a block letter T on plan, the upright stroke forming the sanctuary and the cross stroke the Chapel of the Nine Altars. For ritualistic purposes the sanctuary was five bays in length, but architecturally it continues for a further two bays to the east wall of the Chapel of the Nine Altars. The only other example of this form of plan is to be found at Durham Cathedral, which was built a few years after Fountains Abbey.

The position from which both views are taken is from the east end of the south transept, looking northward. It will be seen that the chapel is divided into three main sections by two magnificent, high and slender columns, bereft of their beautiful marble shafting, rising to a height of 47 ft. These columns carry an arch on either hand, uniting them with the walls of the sanctuary and the east wall of the church.

The central portion between these columns was the Lady Chapel, which, as already pointed out, is the full width and height of the sanctuary, as shown by the light coming in from the left. To show the termination of the sanctuary, marble columned piers and an elaborately moulded arch marked the boundary. A low stone screen stood behind the High Altar, which separated the sanctuary from the chapel, and this can just be seen on the restoration drawing. The Lady Altar was placed centrally beneath and between three lancet windows, with a rose window above, but these were replaced by a single large perpendicular window inserted by Abbot Darnton between the years 1479 and 1494. It had elaborate tracery in the arch and nine rows of glazing. With its storied, coloured and painted glass, it could truly vie with that at York Minster, and formed a fitting termination to the vista from the great west doorway; but, alas, now it is an empty void. However, there is this to be said in mitigation—that the beautiful landscape with fleeting clouds is a delightful substitute for the glazery. Probably on either side of the Lady Altar was another altar, each being dedicated to appropriate saints, such as St. Joseph and St. Anne.

The other two portions of the Chapel of the Nine Altars form north and south transepts respectively; each is divided into three architectural bays, with its own appropriate altar under an eastern window. It is known that the altar farthest north was dedicated to St. James. Now only a slight rise in the greensward indicates where the edge of each step to the nine altars came.

With this great chapel finished, the abbey had at the very least twenty-seven altars for the brethren to celebrate the Divine Mysteries. The chapel came into being during the period when building enthusiasm was at its zenith, cathedrals, abbeys and priories vying with each other in the erection of beautiful churches. The rule-of-thumb building methods of the Normans had passed away, and mathematical accuracy with scientific principles was being employed—now lightness and delicacy, as before heaviness and crudity. Yet the Cistercian Rule kept a check upon the carvers, for no floral or figure decoration was permitted, so the architect fell back upon mouldings for his ornament. Constructural ornament was used extensively.

Marble shafts were applied to carry moulded capitals and elaborately edged archings, the walls arcaded as a dado and the middle and upper walls panelled and edged with beautiful marble shafts. These are shown in the restoration, and many of the capitals still remain in place, having been firmly built into the structure.

In this Early English style every part of the architecture had its proper function. Foundation supported base; base, column or shaft; shaft, capital; capital, arch; and the arches were so arranged that the outer archings rested on the inner; consequently, very little centering was required, and the edges of the arches were filleted, rounded and chamfered.

The windows at this period had single lights and were lancet pointed, as seen in both drawings, except that a large window at either end was inserted by Abbot Marmaduke Huby, between the years 1494 and 1526, this being the last important alteration to the chapel. These two windows had seven lights each, and tracery within the arch in the late Perpendicular style. All the tracery is now gone, except for a jagged edging, but, instead of this, a glorious view is obtained of the wooded hillside rising round about the ruins. The chapel is now roofless, and only two rows of flying arches high overhead remain to give a reminder of its former glories.

The roof shown in the restoration is not the original of the thirteenth century, but a timber structure placed by Abbot John Darnton between the years 1479-1494. By this time the stone vaulting and high-pitched timber roof above it was about 250 years old, and had become dangerous, so he had it removed and a new roof of timber only constructed to replace it. This seems to have been boarded internally in the form of stone vaulting, as can be seen in the north transept at York Minster, and very beautiful it is. But this method of roofing without tie beams requires buttressing in the same manner as a stone vault. Here the buttresses were provided already, but the two central ones at the east end were greatly strengthened, as seen in the drawing showing through the opening of the great east window. The internal shape of the wooden boarding was interesting. A large wagon vault ran from the east end of the central tower over the sanctuary and Lady Chapel, to the head of the great east window. Another ran north and south over the transepts of the Chapel of the Nine Altars, but these did not intersect in the usual way with the sanctuary vaulting, but finished against the north and south walls above the two slender columns.

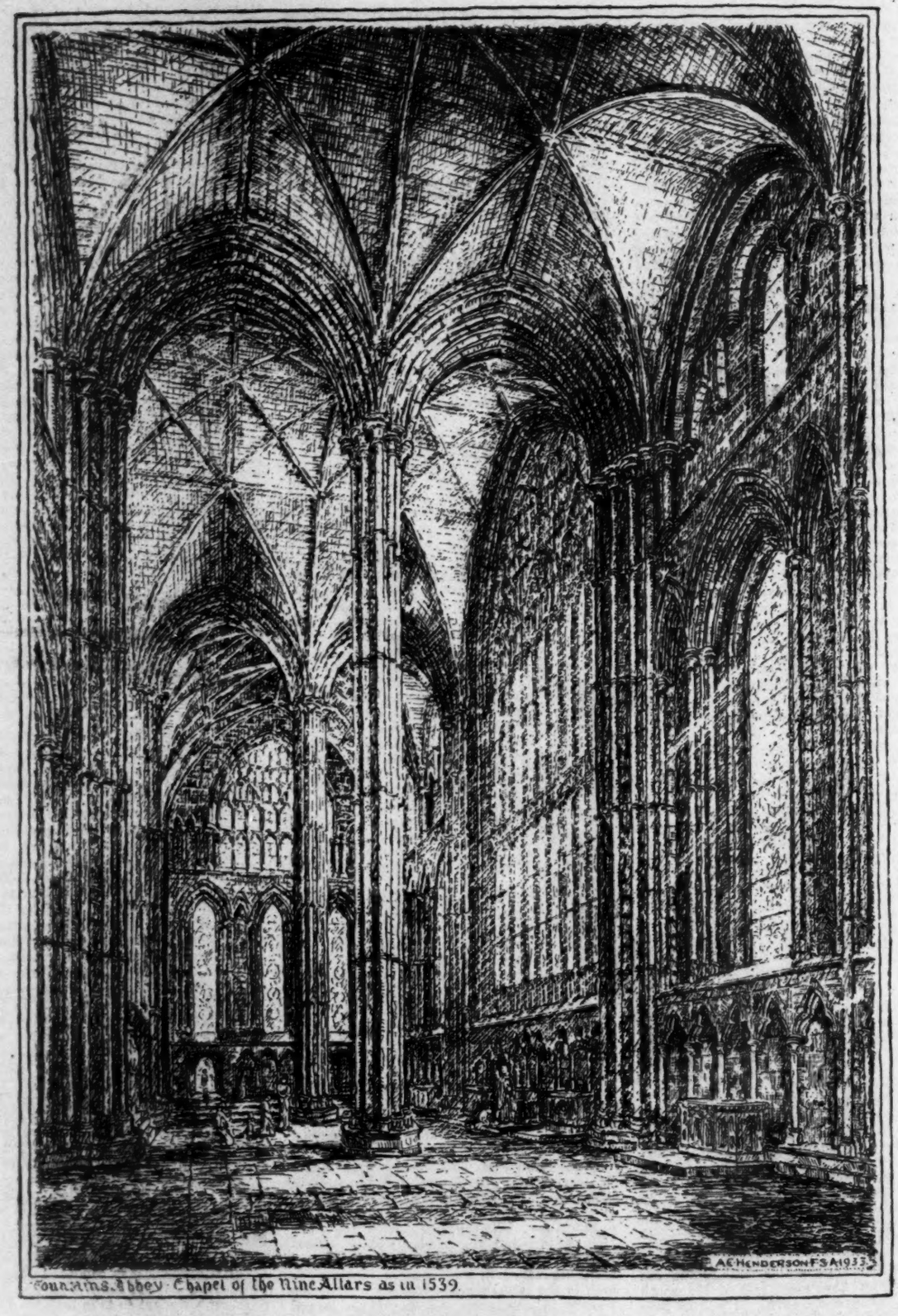
The heads of the windows rose higher than the springing of the vault, so they were dormered into it, and moulded ribs covered the curving intersections. These ribs were also carried along the smooth surface of the vaulting for ornament, and to cover the fixing of the planking, carved bosses being placed at all intersections of these ribs, the whole making a very pleasing effect without great cost, but very liable to fire, as York Minster can testify. The sanctuary roof was treated in the same way, and continued through to the east window.

It can hardly be realised that the abbey was a glorious institution, and had barely finished building when at one fell swoop it became the place of the dead, functioned no more, and became a glorious ruin; but now happily preserved from further decay, it has become a source of wonderment to builders in steel and concrete.

UNIVERSITY COLLEGE, LONDON

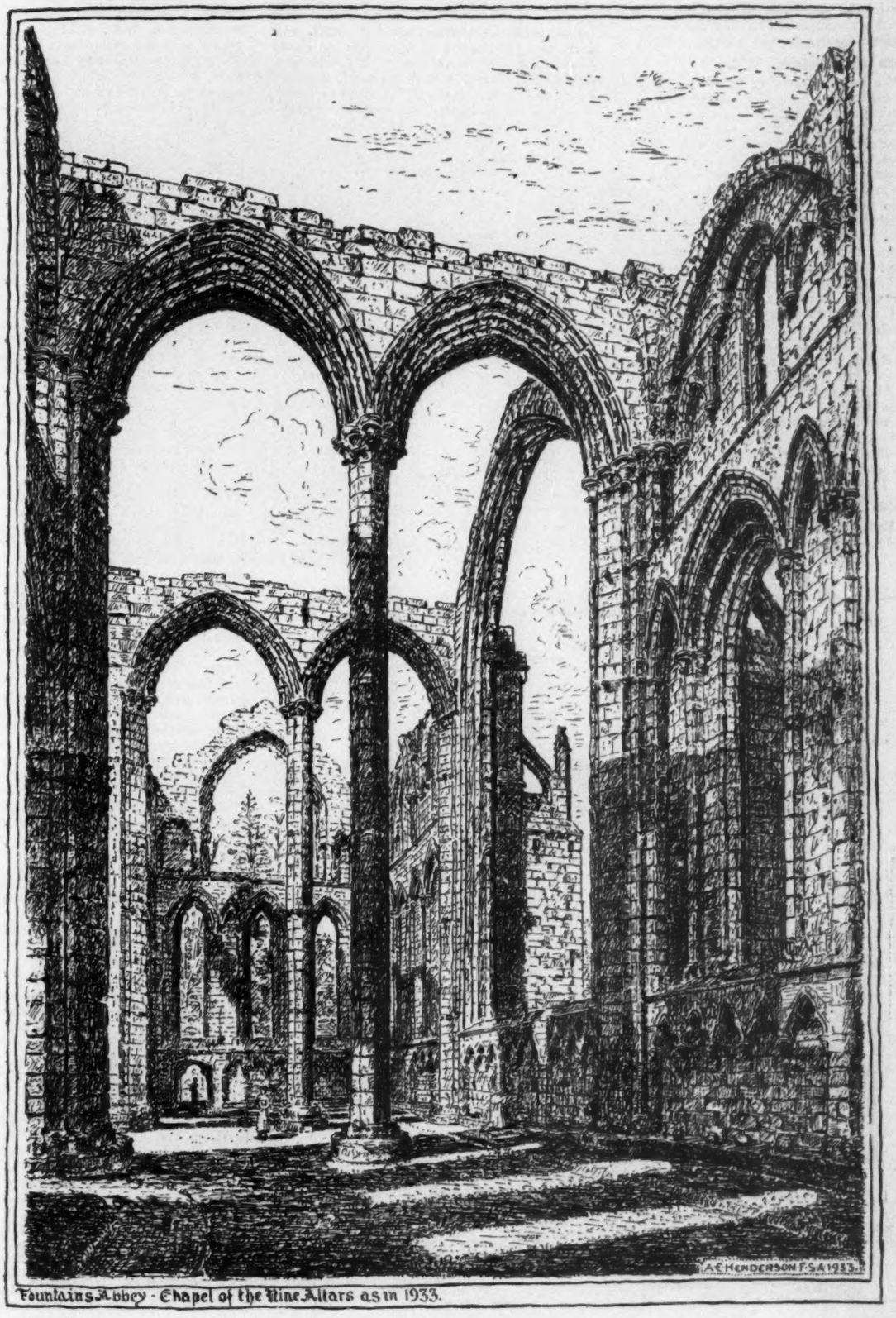
The Annual Report of the Committee of University College, London, for the year ending in February, 1933, has been issued. The number of students on the books of the College last session was 3,038. The College has for many years taken an active part in promoting adult education by providing public lectures that are open without fee. The aggregate attendance at these lectures during the Session 1931-32 was about 43,500. The Report indicates that an addition to the College buildings has been made by the reconstruction and equipment of a portion of the newly acquired property south of the College for the Department of Zoology. Through the generosity of Mr. Gustave Tuck, a former lecture theatre has been transformed; it has been renamed after the donor. In the space adjoining it, new accommodation has been provided for the Mocatta Library of works dealing with Jewish and Anglo-Jewish History, and for a museum which contains (in addition to the Mocatta Collection) many exhibits of Jewish historical interest, including a number of objects illustrating the ancient civilisation of Palestine that have been excavated by Professor Sir Flinders Petrie.

From the report of the Faculty of Arts, it appears that 18 full-time students are at work in the Division of Decoration, under Mr. H. Warren Wilson. A new scheme of work has been planned for the Department of Town Planning, with a view to bringing the work of that Department into line with the educational requirements of candidates applying for membership of the Town Planning Institute, enabling a student to take both the Certificate and the Diploma in two years. The Bartlett School of Architecture, under Professor A. E. Richardson, continues to make progress. 122 full-time students, seven evening students and 15 evening students are enrolled, and present and past students have an excellent record of successes in competitions for awards.



Fountains Abbey, Yorkshire: Chapel of the Nine Altars, as in 1539.

Drawn by Mr. A. E. Henderson, F.S.A., F.R.I.B.A.



Fountains Abbey, Yorkshire: Chapel of the Nine Altars, as in 1933.

Drawn by Mr. A. E. Henderson, F.S.A., F.R.I.B.A.

ILLUSTRATIONS

PLATES.

Fountains Abbey, Yorkshire.

An article by Mr. A. E. Henderson, F.S.A., F.R.I.B.A., accompanied by two drawings of this ancient abbey, appears on pages 651-3.

14, South Audley-street, W.1.

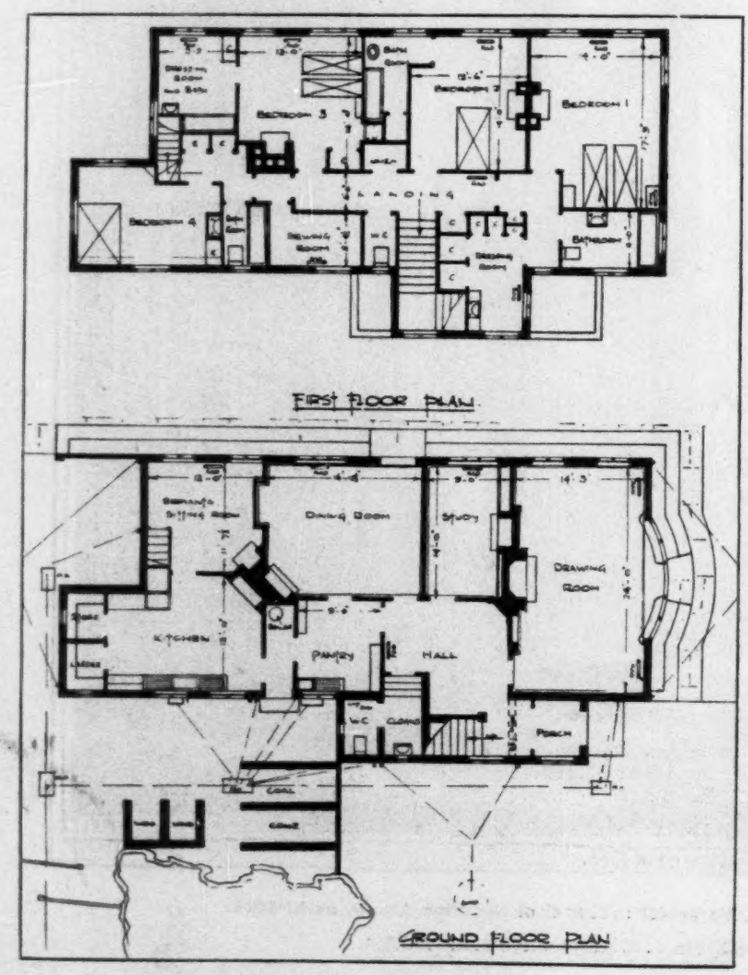
Not the least interesting problem attached to the alterations at this house was the heightening of the upper floor rooms a further 2 ft. This necessitated the removal, raising and careful replacement of the original old tiled roof. On the ground floor a new reception room or lounge at the rear was formed by altering the original somewhat ill-shaped rooms to more desirable proportions with as little disturbance as possible to the original construction. The hall, as formerly, was cramped and enjoyed no daylight whatsoever; this was rearranged happily to overcome these defects. The old, rather pleasant, wooden-baluster staircase was carefully retained and repaired where necessary, and a passenger lift installed serving all floors. A new porch in thin bricks was added to the South Audley-street front. Bathrooms and modern sanitation were part of the necessary additions. All the old work of character, including some interesting bolection mould panelling in the upper rooms, was retained. The contractors for the general work were Messrs. Head and Thurlow, and the passenger lift was by Medways. The architect was Mr. Sydney E. Castle, F.R.I.B.A.

"Oldfields Furze," Beaconsfield.

This house is built of 9 in. solid walls with an external rendering of "Snowcrete" mixture having a black plinth. The roof is covered with Italian tiles (unders and overs) which are laid on 3 in. by 2 in. vertical battens at about 11 in. centres. The chimneys are constructed in yellow over-burned stocks. The windows are metal casements fixed in wooden frames, glazed with leaded lights, and the shutters on the south, east and west elevations are painted a glossy black. On the west elevation is a bow window circular on plan and two small windows under the eaves. Hall, dining-room and first-floor landing all have Bruce oak flooring, and the staircase is constructed with solid oak baulks. All reception rooms face south. The kitchen is fitted with "Easiwork" cabinets and dressers, fitted with an Aga cooker to be worked in conjunction with a gas hot-plate. The general contractors were Messrs. Y. J. Lovell and Son, of Beaconsfield. The windows were supplied by Williams and Williams; sanitary fittings by Shanks and Co., Ltd.; fireplaces by Bratt, Colbran and Co., Ltd., and The Cosy Stove Co., Ltd.; the Aga cooker by Bell's Heat Appliances, Ltd.; and paint by R. Gay and Co., Ltd. The roof was carried out by Roberts Adlard and Co., Ltd., with tiles from the Tilehurst Potteries, Reading. The contract price was £3,500, which included oak flooring, central heating, laying gas, water and electric light mains at a considerable distance from the road, and making a carriage drive, the cost of which was about £250. Mr. G. Langley Taylor, F.R.I.B.A., F.S.I., is the architect.

A Branch Bank at Weybridge.

This new branch bank, recently completed at Weybridge for the Midland Bank, Ltd., has been designed by Mr. J. D. Hossack, F.R.I.B.A. It is an interesting example of an irregular site which was made difficult to plan by reason of the 11 ft. set back demanded by the county council.



"Oldfields Furze," Beaconsfield.

MR. G. LANGLEY TAYLOR, F.R.I.B.A., F.S.I., Architect.

Offices for an Aviation Company, Hayes.

The front portion of the site for the new buildings recently completed for the Fairey Aviation Co., Ltd., at Hayes, Middlesex, together with the reconstruction of the old staff offices, was occupied by temporary structures, built during the war, which had to be removed to make way for the new offices, and, as the old buildings were being used by the company, the new premises had to be built in two portions, the rear block being put into occupation before the second portion was built. The elevations are faced with "Snowcrete" white cement. The main entrance is in artificial stone and the door is of teak with bronze furniture and an ornamental bronze fanlight. The accommodation consists of a board-room, the chairman's office, the walls of which are panelled in figured walnut, vestibule, directors' offices, staff offices, large drawing and technical offices, private and staff luncheon rooms, kitchen, etc. The walls to the general offices, corridors, etc., are plastered in Keene's cement distempered in light colours. The main staircase has oak treads and risers, an open balustrade in black and chromium plate and a chromium-plated handrail. The kitchen and lavatories are tiled and the building is provided with chromium-plated fittings throughout. The premises are centrally heated by low pressure hot water. Gas heaters are provided in the directors' lavatory. Lighting is by electricity. All the principal rooms have intercommunicating telephone service.

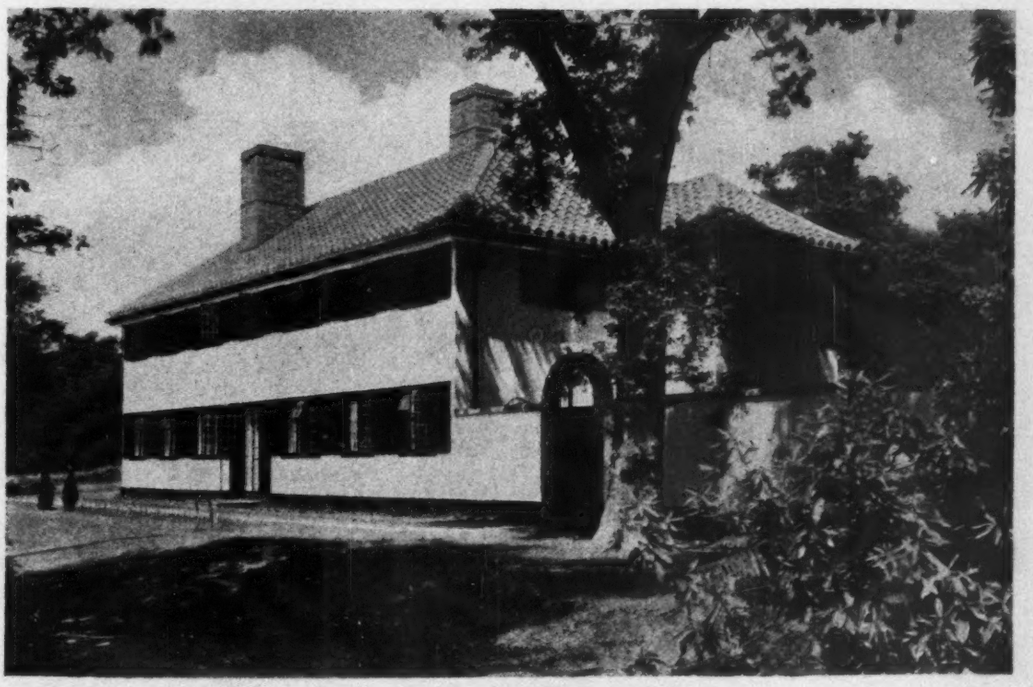
The general contractors were Messrs. Buckingham and Sons, of St. John's Wood, N.W.8, and the sub-contractors included:—Structural steelwork, M. T. Shaw and Co.; artificial stone, Emerson and Norris; external tiling, Rust's Vitreous Mosaic and Tile Co.; plastering, W. A. Telling, Ltd.; asphalt, Salter, Edwards and Co.; heating, R. W. Steele and Co.; electric lighting, Mansell, Jarrett Co.; iron casements, Hoskins and Sewell; internal tiling, T. W. Mansell; joinery and walnut panelling, Allensor, Ltd.; bronze grilles and staircase balustrade, H. C. Hall; sanitary fittings, Leeds Fireclay Co.; ironmongery, Robert Adams; wood block flooring, Westminster Patent Flooring Co.; "Ruboleum," R. W. Brooke and Co.; dome lights, Paragon Glazing Co.; linoleum, Angus Eve; safe, John Tann, Ltd.; marble chimney piece, Art Marbles, Stone and Mosaic Co.; fireplace, Bratt, Colbran and Co.; gas water heater, Gas Light and Coke Co.; illuminated mirror, A. C. Finer; lay-light glass, etc., John Hall and Son, Ltd.; electric clock, Camerer Cuss; blinds, J. Avery and Co.; and curtains, Hampton and Sons and Eldred Sayers. The architects are Messrs. Goodwin and Chapman, A.R.I.B.A., F.S.I.

Proposed Cottage, Wendover, Bucks.

In the designing of this house the general aim was to provide an easily worked house for a family of three. The estimated cost of the house itself is £800, which excludes site work such as fencing, levelling, etc. It is not anticipated that the cottage will be occupied throughout the whole year, and to meet the need for ample storage during the winter months cupboards have been provided in each bedroom, on the landing and in the hall, whilst the linen store is well in excess of usual capacity. Externally the walls will be hollow up to the level of the bedroom window sills, above which they will be solid and covered on the outside with elm boarding. The whole of the external brickwork will be cream washed with a tarred plinth about 12 in. high running around the house, the front entrance doorway being picked out in plum-coloured bricks. All windows will be steel in wood frames and the roof is to be of rye thatching which has a life of about 30 to 40 years if looked after. Internally, the floors are to be of wood with the exception of the hall, kitchen and bathroom, which will be laid in buff composition flooring. The walls of the bathroom will be tiled to a height of 4 ft. The hot water system will be supplied by a

(*Continued on page 663.*)

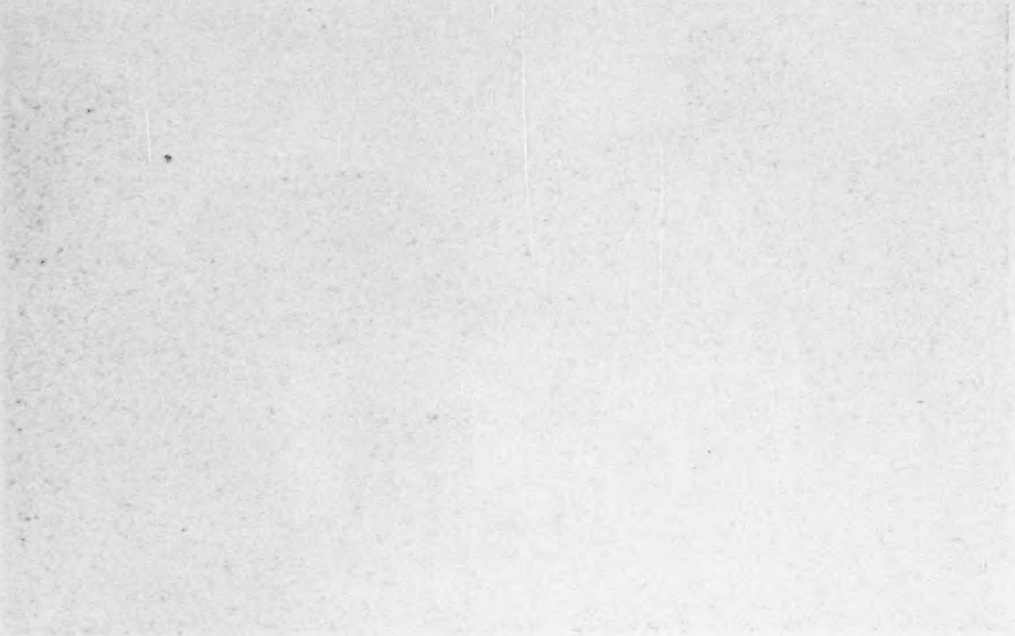
VIEW SHOWING THE ENTRANCE PORCH.

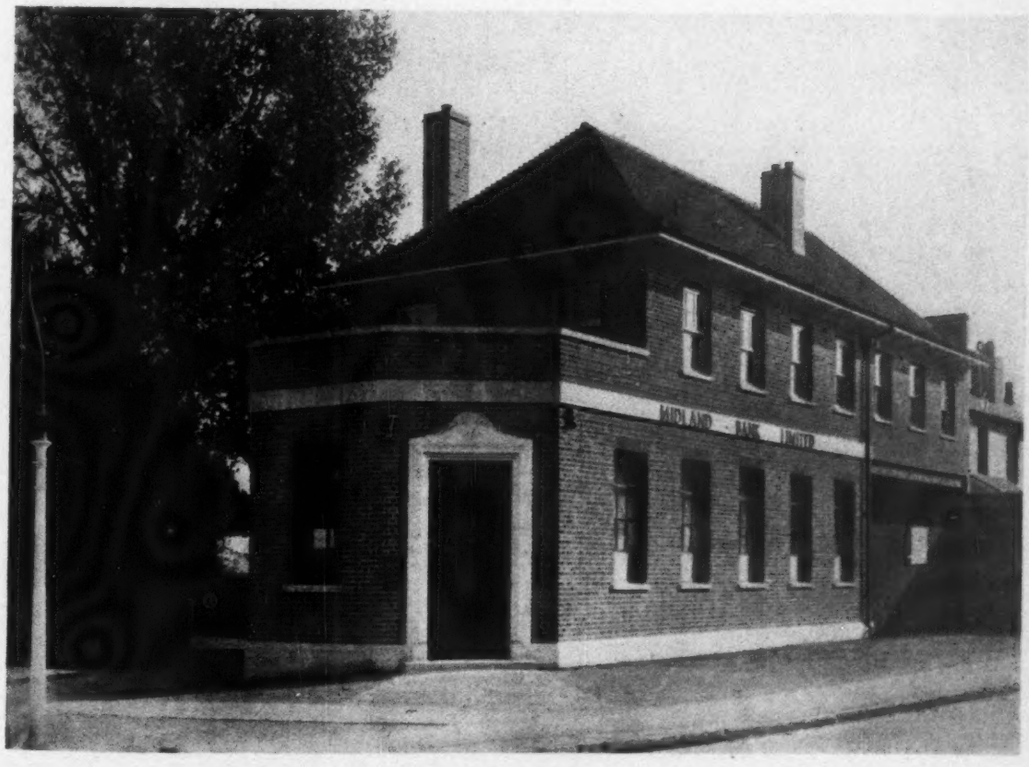


THE GARDEN FRONT.

"Oldfields Furze," Beaconsfield.

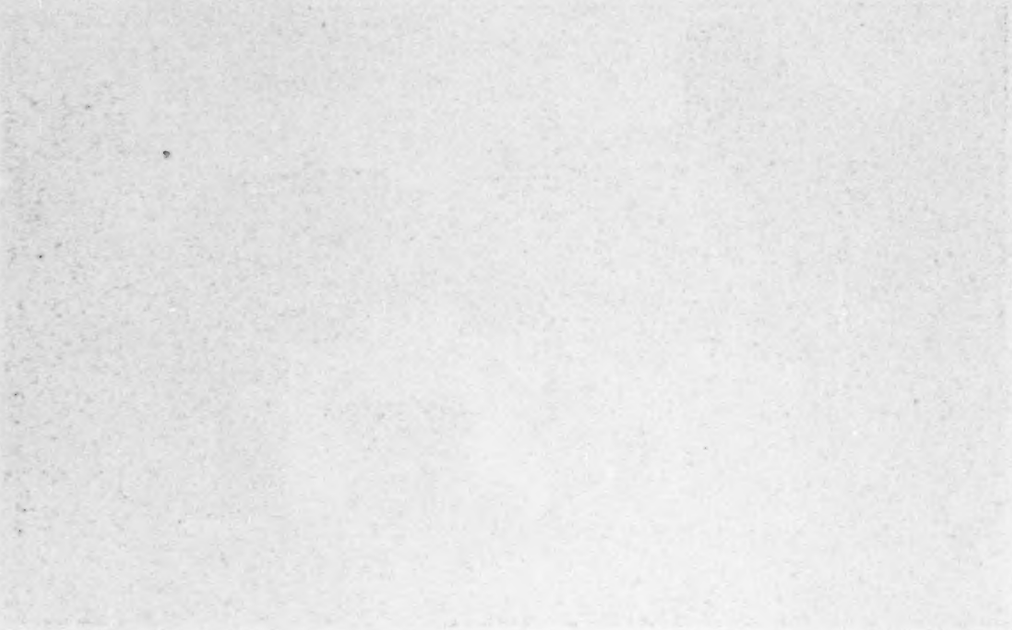
MR. G. LANGLEY TAYLOR, F.R.I.B.A., F.S.I., Architect.





A Branch Bank, Weybridge, Surrey.

Mr. J. D. Hossack, F.R.I.B.A., Architect.



A Branch Bank, Weybridge, Surrey.

MR. J. D. HOSSACK, F.R.I.B.A., Architect.

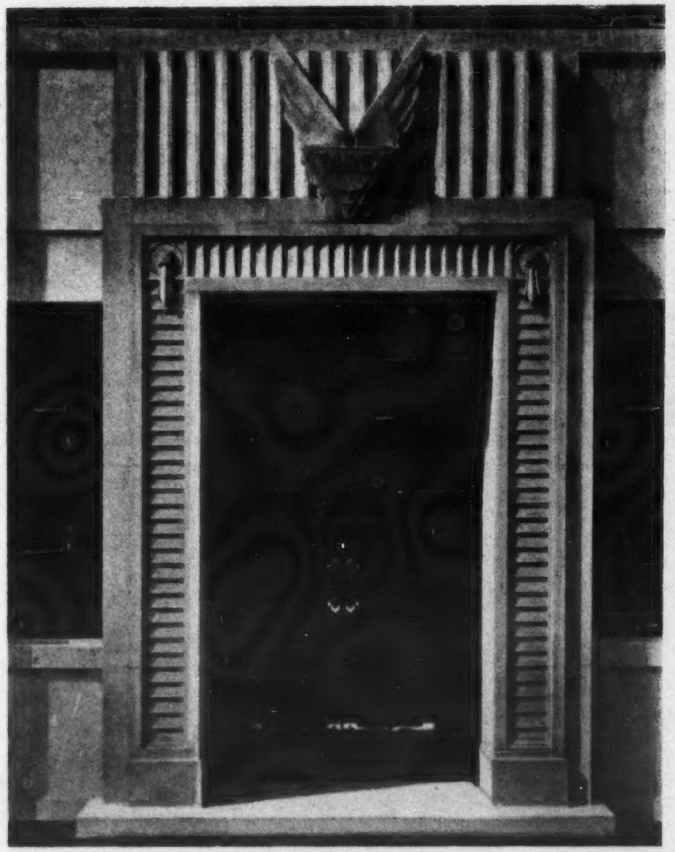
THE MAIN FRONT.

THE ENTRANCE HALL.

Offices for an Aviation Company, Hayes, Middlesex.

MESSRS. GOODWIN AND CHAPMAN, A.R.I.B.A., F.S.I., Architects.

Main Staircase from Entrance Hall.

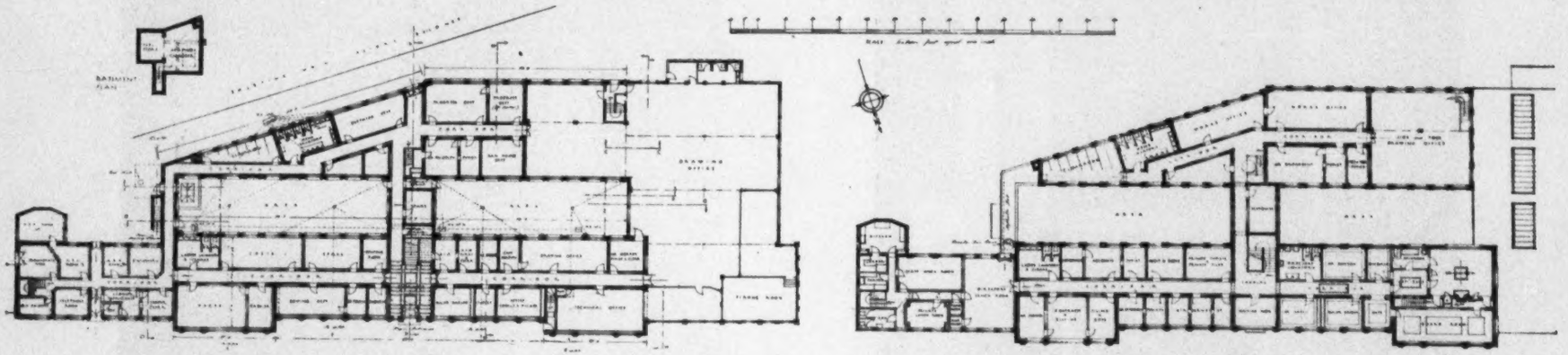


Detail of Main Entrance.

Offices for an Aviation Company, Hayes, Middlesex.

Messrs. Goodwin and Chapman, A.R.I.B.A., F.S.I., Architects.

ELEVATION to CRANFORD LANE

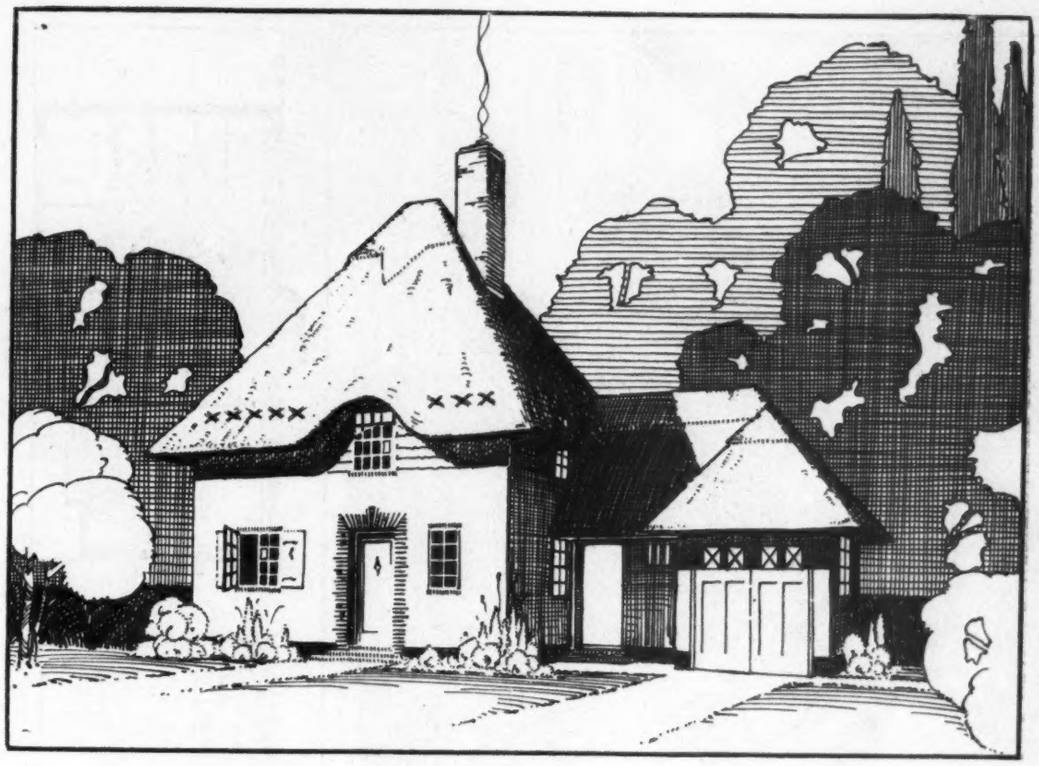


GROUND FLOOR PLAN

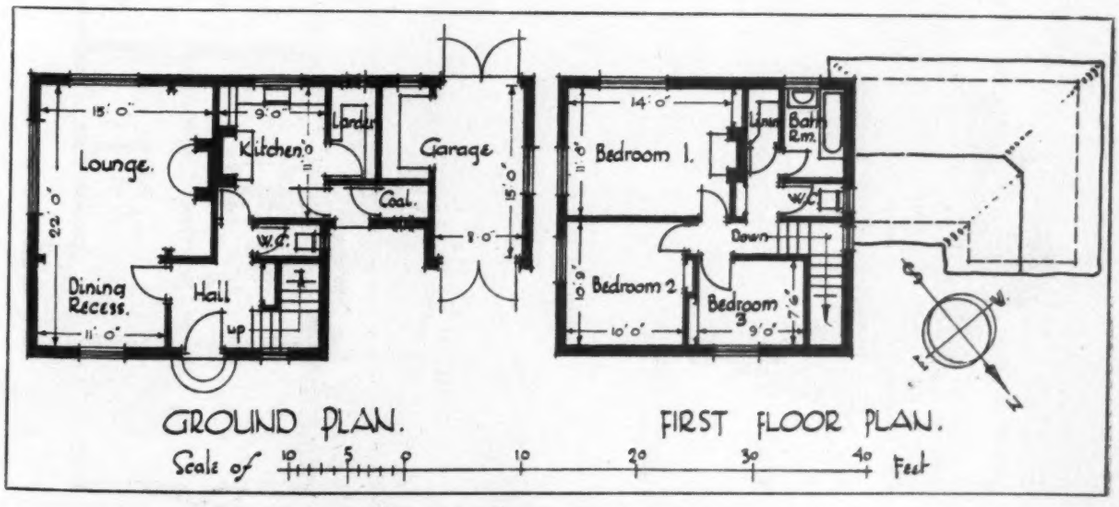
FIRST FLOOR PLAN

Offices for an Aviation Company, Hayes, Middlesex.

MESSRS. GOODWIN AND CHAPMAN, A.R.I.B.A., F.S.I., Architects.

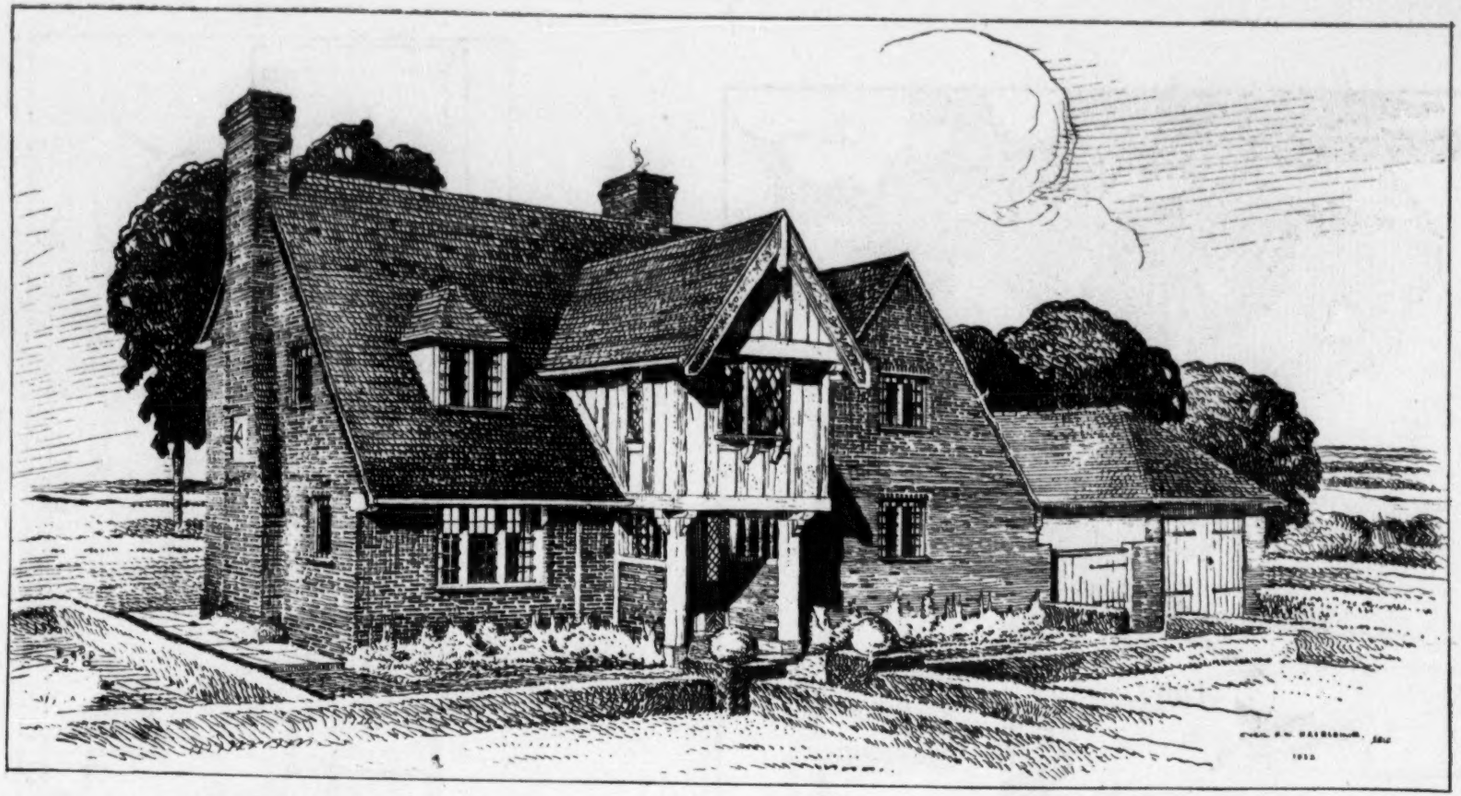


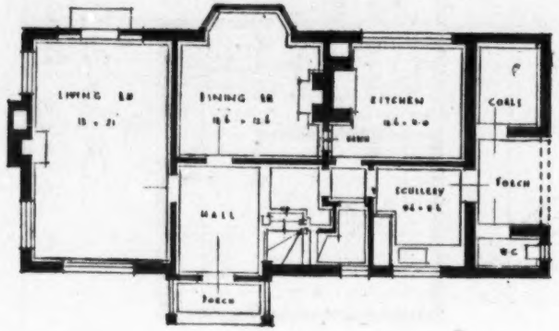
PERSPECTIVE VIEW.



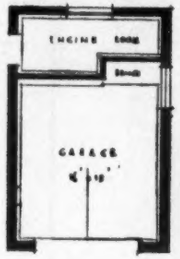
A Proposed Cottage at Wendover, Bucks.

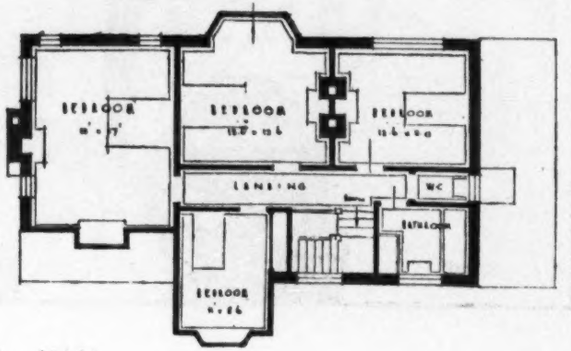
MR. A. G. ALEXANDER, A.R.I.B.A., Architect.





GROUND FLOOR PLAN

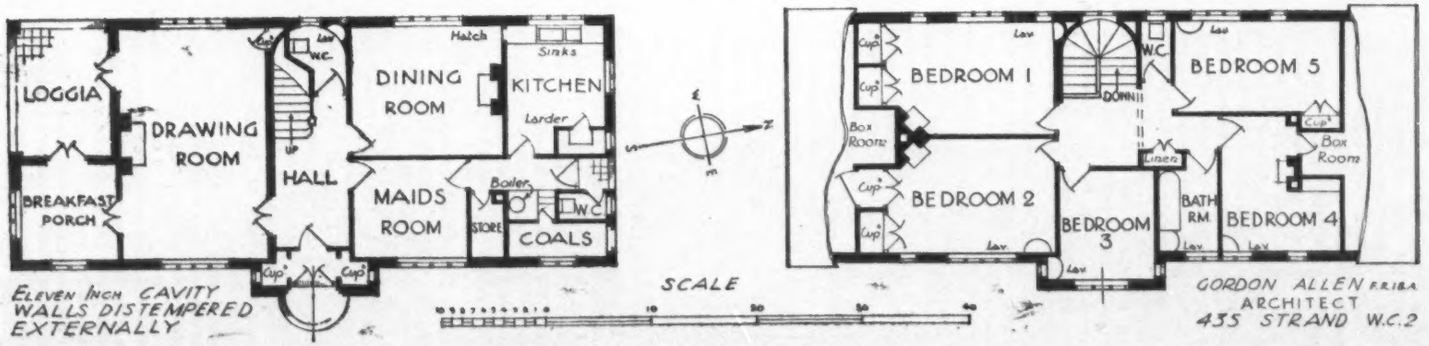




FIRST FLOOR PLAN

House at Berkswell, near Coventry.

MR. CYRIL F. W. HASELDINE, F.R.I.B.A., Architect.



House at Pachesham Park, Leatherhead.

Mr. Gordon Allen, F.R.I.B.A., Architect.

"THE BUILDER" DEBATE

LXI.—TECHNICAL TRAINING OR ARTICLES?

That technical education in classes is not a satisfactory substitute for articled pupilship, and the cost of it should not come from the public purse.

SIR,—I welcome this apparently well-worn subject for a debate, because I feel that, despite all that has been written and said about it, there is yet still more to say, either breaking fresh ground or repeating in stronger terms previous arguments.

It is well to consider the final aim first, to cast light upon means of training. In architecture the final aim is successful and secure conditions of private practice. For this to be in its healthiest state, there must be just enough architects to carry out efficiently the amount of architecture to be done, and not too many to embarrass each others' position. And that desirable number of architects must be experienced, talented, and honourable. Professional experience can only be gained by contact with work, and the public must not be expected to provide that experience at its own expense by the employment of young, inexperienced men. Those men must, on the other hand, gain that experience in an office, where a responsible head may see that inexperience does no harm.

Talent is a gift to the few, and becomes mellowed into a useful instrument of service by contact with the real things of life, such as office life is continually offering. Professional honour is a code within the boundaries of general honour. The just man will be honourable in intention, but professional honour may be infringed in mere ignorance, whether as between one architect and another, or between one and his client, or as between client and builder. The years build up the mental outlook which can fairly adjust such matters to a common denominator of fair play. There is no course of instruction that can supplant experience of actual events.

Now I doubt very much whether any of these points, so far, will be challenged, although they point the finger straight at the necessity for office experience as an important point of architectural training. The fact is recognised by the R.I.B.A. and its Board of Architectural Education, though in a meagre way. The R.I.B.A. demands that the school-trained student shall pass at least six months in an architect's office before qualifying, though his election will then be practically automatic.

I put it to the reasonably minded man: How can six months' experience in the limits of one office build up the knowledge of affairs without which the practice of architecture is a danger to the public? At the best it may be a good start. At worst it can be a farce; and I suggest with all seriousness that this is merely a crumb of comfort thrown to those busy men who have little time to think of educational reform, but have voiced their misgivings as to the purely academic training.

You cannot turn out an architect, in the true meaning of the word, without many years' experience in a busy office. How can the student of to-day afford to carry out both this requirement and a five, or even three, years' training at a technical school? And, if one must go, is it not obvious which can least be spared?

I see no case against the argument in favour of articles, as opposed to the technical class, as the preferable system of training, and I will reserve my minor arguments until this revelation has been made. So far as the cost of technical classes is concerned, it is obvious that if these are superfluous, it is waste of the taxpayers' money. But if this is too sweeping a way of dealing with the matter, I am prepared to say that if technical classes assist to produce the right type of man, in the right numbers, and at the right time, for the service of the public, and if such conditions cannot be obtained without them, then it will pay the public to meet part, at least, of their cost.

But the facts are otherwise. There is no attempt to limit subsidised classes to a single desirable type. All or sundry may attend and cost the public purse a like amount. The market is already flooded with architects. Why pay to add to their numbers, when there are enough ready and anxious to pay for themselves?

Classes persist, whatever the state of the market. Why pay for courses of instruction, turning out trained, or professedly trained, students in numbers quite unrelated to the needs of the times? The present is a time when the cost of this type of education is a grievous waste of money, in that public men are already at their wits' end how to reduce public expenditure, and in that it meets no acute need in any scientifically controlled manner.

I suggest that the money is better spent on roads than on this, and that we need not feel that the supply of potential architects of the right type will fail.

POSITIVE.

SOCIETIES AND INSTITUTIONS

SOUTH WALES INSTITUTE OF ARCHITECTS.

Elections.

At the annual general meeting of the South Wales Institute of Architects, held in Cardiff on the 30th ult., the following officials were elected for 1933-34:—

President, Lt.-Col. E. H. Fawckner, T.D., F.R.I.B.A., Newport. Vice-Presidents, Mr. J. Herbert Jones, F.R.I.B.A., Swansea; Mr. W. S. Purchon, M.A., A.R.I.B.A., Cardiff.

Lieut.-Col. E. H. Fawckner, T.D., F.R.I.B.A.

PRESIDENT OF THE SOUTH WALES INSTITUTE OF ARCHITECTS.

Hon. Treasurer, Mr. H. Teather, F.R.I.B.A., Cardiff. Hon. Auditor, Mr. J. A. Hallam, M.T.P.I., Cardiff. Hon. Librarian, Mr. Lewis John, M.A., A.R.I.B.A., Cardiff. Hon. Secretary, Mr. Ivor P. Jones, A.R.I.B.A., Cardiff. Lt.-Col. Fawckner, who was President of the South Wales Institute in 1907-8, has always taken a keen interest in its affairs, and particularly in the Eastern (Newport) Branch, of which he was chairman in 1926-29.

EDINBURGH ARCHITECTURAL ASSOCIATION.

At the monthly meeting of the Council of the Edinburgh Architectural Association, held at 15, Rutland-square—Mr. James A. Arnott, F.R.I.B.A., President, in the chair—it was intimated that Mr. Harry Hubbard, A.R.I.B.A., had agreed to act as corresponding member of the Chapter to the *Quarterly Journal*. The following members were elected:—Messrs. James F. Ford, T. C. Marwick, F.R.I.B.A., and A. Laurie Goodwin, L.R.I.B.A., as Fellows; Messrs. J. R. H. Millman, Adam Arnott, Tranent; Wm. A. Ogg, Balerno; and Mrs. Helen M. Bryce, as Associates; Mr. Thomas Armstrong, as Student; and Messrs. James Knox, assistant surveyor; James A. Cruickshank, chartered surveyor; G. W. Simpson, branch manager, Scaffolding (Great Britain), Ltd., and Wm. M. Baird, F.F.S., as Affiliates.

THE COLLEGE OF ESTATE MANAGEMENT.

Principles of Town Planning.

In a recent lecture at the College of Estate Management, Lincoln's Inn Fields, Dr. R. C. Maxwell, P.P.T.P.I., discussed further provisions of the Town and Country Planning Act. He said that a large number of local Acts had been repealed by this measure, and only one such remained in force, namely, the Surrey Act, under which the county council was empowered, among other things, with the consent of the Minister of Transport, to acquire land situate on either side of certain roads or within 150 yards of either bank of any river or stream in the county, if it was the opinion of the council that the acquisition of such land was necessary for the preservation of the amenities of the locality. It was a great advantage to have the law of town and country planning now set forth almost entirely in one Act. Later on, regulations would be made by the Minister of Health in pursuance of the express provisions included in the schedules of the Act.

One point stressed by the lecturer was the importance of the provision relating to private open spaces, which might be prescribed by the responsible authority by agreement with the owners. There appeared to be a growing appreciation of this form of reservation which would not disturb private enjoyment, but at the same time would permanently secure views of green spaces to the advantage of the community as a whole. A fine lead was given in this matter by Lord Astor in agreeing with certain rural councils to schedule in their schemes about 156 acres on the bank of the Thames, and Lord Desborough in similarly agreeing to reserve 184 acres so that the view of a particularly beautiful reach of the river would be safeguarded in perpetuity. Farther up the Thames similar action had been taken by public-spirited landowners in the neighbourhood of Oxford, and the same was true in Lancashire and Yorkshire and elsewhere.

In conclusion, the lecturer said that the new Act was full of complications, details, and subtleties. There was some doubt as to whether it would expedite town planning; the intricacy of its provisions might cause delay. But he did hope that planning was going ahead; he could not help thinking that it had a big future, and it was, furthermore, a gross exaggeration to say that a town planning scheme need be expensive.

MUNICIPAL AND COUNTY ENGINEERS.

Meetings of the Scottish District of the Institution of Municipal and County Engineers are being held in Edinburgh this week. The national president is Mr. Thomas Somers, master of works and city engineer, Glasgow. The main session is to-day (Friday), when an address will be given by Mr. William A. Macartney, city engineer, Edinburgh, on "Town and Country Amenity," and papers will be read by Mr. J. W. Deighton on "Roads and Quarries in Midlothian," Mr. E. E. Barnard on "Recent Bridge Works in Edinburgh," and Mr. Liston Carnie on "Recent Main Drainage and other Sewerage Work in Edinburgh."

MODERN MATERIALS

Mr. R. A. Duncan lectured recently on "The Effect of Modern Materials upon Building Design" at the First Avenue Hotel, Holborn, W.C., before the Institution of Rubber Industry. He had originally intended to deal exclusively with the uses of rubber in modern building, but decided to widen the scope of his lecture, so as to take in all modern materials. Mr. R. C. Blyth presided.

The lecturer said that steel did not come into general use as a building material until the end of the last century, but steel and its offspring, reinforced concrete, were the two factors that had compelled the modification of building design to a far greater extent than any others. Previously the wall had been the determining element of architectural character, but it had now undergone such a modification that design precedents were no longer applicable. Now outer walls might be merely skins, while inner walls could be replaced by partitions. Generally speaking, at any period of building design most structures preserved the outward appearance of the method of building that had been superseded, and it was so to-day; but this sort of pretence could not be expected to last indefinitely: ultimately changes in structural method must have a profound effect upon building design.

Apart from the basic structure itself, a thousand-and-one inventions and a host of new materials had been poured into the hands of the designer with insistent appeals on the part of clients, contractors and salesmen that they should be employed. There had been a remarkable extension in the manipulation of iron beyond that by means of hammer and anvil: such methods of production as extruding, spinning and pressing it had been introduced. The introduction of plywoods and laminated boards had brought a tremendous revolution in woodwork.

Viewing his subject from another angle, the lecturer said the economic aspect deserved far more attention than he could possibly give it. For many years floor space had been steadily increasing in price and diminishing in quality. This was in contra-distinction to all other commodities. Modern methods of production had made it possible to turn out a plethora of goods in most industrial fields, but building was an exception to this rule. This was because of out-of-date methods of production partly, and also because romantic emotional demands as to appearance made it impossible to apply scientific industrial processes.

In 1928 he had produced for purposes of exhibition an architectural phantasy based upon the assumption of the machine factory-made house. In this house sheet rubber had been used as a paving for roofs and gardens as well as rubber tiling for floors. In the furniture, cellular and sponge rubber had been used in lieu of springs, and also for the mattresses of beds, for bath mats, and so on. Vulcanite or ebonite had been used for shelving and handles, and also as a practical roofing material. The windows had been constructed like those of motor-cars, rubber strips being used. No doubt, there were many other uses that might be made of rubber in building, such as for an insulating and sound-absorbing material, or as sheathing for the protection of metals, or as paint, etc., but, of course, what he had done had been for exhibition purposes, and an architect would not specify rubber in his ordinary practice without careful consideration as to whether a better or cheaper material could not be employed. This house had been a stunt, but out of such stunts might be born realities, and he was prepared to prophesy that the day was not very far distant when buildings would be almost entirely factory produced, and the actual erection of a house would consist in the assembling of its manufactured parts. Properly designed and competently handled, the method was not devoid of artistic possibilities.

LAW REPORTS

King's Bench Division.

Before Lord Wright (sitting as an additional Judge of the King's Bench Division).

KINGSTON ANCIENT LIGHT CASE.

Goffe *v.* Cox and Martin (a firm).

In this case Dr. E. G. L. Goffe, of the Red House, Kingston Hill, Surrey, claimed damages against the defendants, Messrs. Cox and Martin, of King's Stone House, Kingston-on-Thames, for the alleged obstruction of the ancient lights to his premises, being No. 10, High-street, Kingston, by reason of the erection of a building of a permanent character by the defendants, known as No. 12, High-street, Kingston.

The plaintiff, who was the owner of the premises, No. 10, High-street, complained that in consequence of the erection of the defendants' building the light to his surgery consulting room, and inner consulting room windows had been so materially diminished as to amount to a nuisance, and also that the light to the landing, bathroom and cellar windows had been materially obstructed. Dr. Goffe alleged that the result of the obstruction was that the value of his house and surgery had been greatly reduced.

The defence was a denial that the light to the plaintiff's windows had been so materially diminished by defendants' building as to amount to a legal nuisance.

Mr. Porter, K.C., and Mr. Blanco-White appeared for the plaintiff, and Mr. Cyril Atkinson, K.C., and Mr. A. Watson for the defendants.

After hearing expert evidence in the case, Lord Wright, in giving judgment, said that the building of which Dr. Goffe complained was a high building, and his main complaint was as to the obstruction of light to his ground floor windows, which he alleged deprived him of sufficient daylight to enable him efficiently to carry on his professional work. The premises, No. 10, went for some distance by the side of a stream called the Hoggs Mill stream. Previously to the erection of the defendants' building there existed a comparatively low building. Dr. Goffe's premises were, it was stated, between 200 and 250 years old. They had been originally used as a private residence, but about fifty years ago the front of the building was converted into a shop. The doctor's consulting rooms, of which the main complaint was made, were on the ground floor, the other windows, the light of which was said to be diminished by the defendants' building, being on the first floor. When the plaintiff's premises were used as a private dwelling house the ground floor was partitioned off into various rooms. The premises were used as a shop until 1913, and then the plaintiff put in partitions, which made his consulting rooms. The plaintiff also altered the front.

Having referred in detail to the structural alterations which the plaintiff had made, his lordship said that the windows of which he complained were beyond any doubt ancient lights and the question he had to decide was whether, in the events which had happened, the plaintiff had made out a case for relief. Having regard to the evidence, he came to the conclusion that the plaintiff's light was so interfered with that an actionable wrong ensued, and that he was entitled to damages, which he assessed at £150. He accordingly gave judgment for him for £150 with costs.

Court of Appeal.

The Master of the Rolls and Lords Justices Lawrence and Greer.

APPEAL AGAINST JUDGMENT.

Lindsey *v.* Carter and Aynsley, Ltd., and the London Co-operative Society.

In this case the London Co-operative Society, Ltd., applied for judgment or new trial in the action which was tried before Mr. Justice Talbot and a common jury, and which resulted in a verdict and judgment being entered in favour of the plaintiff, Mrs. Maud Alice May Lindsey, a widow, of Seaton-road, Plaistow, London, E., against the Society for £1,250 and costs.

The damages to which Mrs. Lindsey was entitled as compensation for the death of her husband were agreed at the sum of £1,250, the only question for decision being which of the two sets of defendants was liable.

The short facts were that Mrs. Lindsey's husband, Alfred Lindsey, in April, 1930, was employed by the London Co-operative Society, who at the time were reconstructing a building belonging to them in Leytonstone, E., Messrs. Carter and Aynsley, Ltd., of Middlesex-street, E., builders, being the contractors engaged in that reconstruction. On April 26, 1930, a man in the employ of the builders dislodged a putlog which had been left unfastened on scaffolding which had been erected by the defendant society for the use of sub-contractors, with the result that the putlog fell on the head of the plaintiff's husband and fatally injured him. The plaintiff accordingly brought the action under Lord Campbell's Act to recover compensation for the death of her husband.

Both sets of defendants denied liability, the Society's case being that they had provided the scaffolding for their own purpose, that it had not at the time in question been passed as fit for use, therefore that the Society were not liable.

At the first trial, which took place before Mr. Justice Humphreys and a common jury, the jury returned a verdict for the plaintiff against the Society for the amount of the agreed damages, and judgment was entered accordingly, although the Judge said he could not understand the verdict. The Society appealed to the Court of Appeal and obtained an order for a new trial. At the re-trial, which took place before Mr. Justice Talbot and a common jury, the same result was arrived at, the jury finding a verdict against the Society. The Society now, for a second time appealed to the Court of Appeal upon the ground that the verdict was against the weight of the evidence, but the appeal was dismissed, the Master of the Rolls holding that there was sound evidence of negligence against the Society for allowing the putlog to remain loose on the scaffolding, and which was sufficient to support the verdict.

The Lords Justices concurred, and the appeal was accordingly dismissed with costs.

ILLUSTRATIONS

(*Continued from page* 654.)

boiler at the back of the kitchen range, which will be of the "thermostove" type. The whole of the water services have been grouped around and above the kitchen for economy in heat and cost. Mr. A. G. Alexander, A.R.I.B.A., is the architect.

House at Berkswell, near Coventry.

This house has been erected by Mr. Chas. Hope, contractor, for his own occupation. It is being built in the village of Berkswell, near Coventry, and the land on which it stands was once part of the Forest of Arden. The bricks used for external facing are selected, old, thin bricks, with a wide flush-joint, and the roof is covered with dark brown hand-made tiles. The oak used in the construction of the porch is English oak, grown in the district, and is being left in its natural state. The architect is Mr. Cyril F. W. Haseldine, F.R.I.B.A.

House at Pachesham Park, Leatherhead.

This house was recently built on a large site amid fine natural scenery and adjoining a lake. Since the length of the building runs almost due north and south, full advantage of both the aspects and prospects was able to be taken in the planning. All external walling is built with a continuous cavity, the outer face being finished with "Duresco" of a biscuit tint. Around the front door the bricks are of a lavender colour, surmounted by a large tile arch. Langley's blue glazed pantiles were used for roofing. An elaborate system of radiators and a septic tank have been installed. The builder was Mr. R. L. Coombs, A.M.I.Mech.E., of Hampstead, and Mr. Gordon Allen, F.R.I.B.A., the architect.

THE WATERPROOFING OF BUILDINGS

A PAPER on the "Waterproofing of Concrete and Brickwork Structures and Buildings" was read by Mr. A. Stewart Buckle, M.Inst.C.E., to the Institution of Sanitary Engineers on April 7, the President, Mr. Henry C. Adams, M.Inst.C.E., occupying the chair. Mr. Buckle illustrated by means of lantern slides various cases in which concrete work of different types was made watertight by the methods he described.

One of the questions that engineers should always face in designing a new structure, commenced the speaker, was "Will it be waterproof?" Whether we were building under or above ground, that problem must be considered. If the structure were below ground, we had to consider the percolation of underground water; the greater the depth, of course, the greater the pressure from outside. If our structure was a tank to hold sewage or water, we did not want it to be mixed with or contaminated by water percolating through from outside. Those statements might read like platitudes, but, nevertheless, they had frequently been ignored in the past and, judging by the author's own experience, the question was not fully considered even now. The percolation of rainwater in roofs and walls, or, in the case of buildings, by capillary attraction from underneath, had also to be considered. In England if rainwater soaked into walls, it might not trouble us so much in summer, but it certainly would in winter, because after the rain came frost, and, when there was ice inside the walls, one had expansion and disintegration, resulting in flaking off of the surface, especially in stonework. Deterioration of stonework was frequently traceable to frost. In the matter of dampness by capillary attraction from the soil, we had reached some finality by always using damp courses, though up to the Tudor period even that simple remedy did not seem to have been understood. We also built hollow walls as far as possible, so that water percolating through the outer wall should not reach the inner.

Concrete Practice.

The problem of waterproofing engineering and other structures now assumed many aspects. In a paper read before the Society of Engineers in March, 1929, it was shown that all concrete structures should be waterproofed. This, of course, was obvious in the case of a tank, but even ordinary retaining walls, if porous, would allow water to percolate through from the back and cause damage to the structure, whether by injurious water affecting the concrete, or by frost. In the case of reinforced concrete, the necessity was even more evident, because the steel must be protected from rust. Concrete to be waterproof must be absolutely and uniformly compact, and must be composed of impermeable materials. Compactness was made certain of by the careful proportioning of the ingredients of aggregate, sand, cement and water. Neither the aggregate nor the sand should be all of one size because, if they were, the voids were so much greater. Concrete was usually specified to be of a certain mixture, but it was necessary to ascertain the extent of the voids in the aggregate and sand before one could correctly specify the proportions. The amount of water used was also of great importance. Too much water caused porosity, because of the evaporation of excess water not in chemical combination with the cement. It also caused such sloppiness as to make the materials separate by gravitation, thus counteracting all the advantages gained by correct proportion and mixing. The contrary fault of using too little water did not often occur, but it should be guarded against because the result was that the concrete did not take its proper position against the shuttering, especially if there were offsets, etc. A good rough rule might be taken as an approximation to the recognised slump test. The concrete, when mixed, should stand at an angle of not more than 45 deg. to the horizontal and not less than 35 deg. Concrete that stood at angles outside that range might be regarded as unsuitable. It was always laid down that cleanliness is most essential, yet this was frequently ignored or not considered of very great importance. To ascertain the amount of dirt in sand, it was only necessary to mix it with water in an ordinary glass, or, better still, a test tube. It should be shaken thoroughly by applying the hand to the opening, and placed on the table. One had now separated the sand from the dirt, as one would soon see, because the sand fell to the bottom and the dirt remained in the water at the top. In the course of some hours, the dirt all settled and showed perfectly clean water. If one had used a test tube, one could read off exactly the percentage of dirt to sand. If this was more than 5 per cent. the sand should be rejected or washed. Joints between one day's work and another were frequently a source of trouble, but by thoroughly roughening and cleaning to remove all loose and soft stuff, and by the introduction of a layer of 2 : 1 sand and cement mortar 1 in. thick immediately before commencing, that trouble would be effectively overcome.

Waterproofing Concrete.

No waterproofer would make bad concrete good, but a good waterproofer would make good concrete perfect, or as nearly perfect as it was possible to get in this imperfect world. The cost of waterproofing a large mass of concrete might be raised as an objection. The same result, however, could be obtained by the use of a draw plate, so that a depth of four to six inches from the face or back (or both) of the mass might be thoroughly waterproofed. Where contraction was expected in mass concrete, it was possible to insert a waterproof flexible joint. In spite of all precautions taken, when the work was completed, it might very likely be found that there were leaks, and that the concrete, or it might be brickwork, was not watertight. Perhaps reliance had been placed entirely upon good concrete or impervious bricks. In underground work, however, it was very difficult to keep the concrete free from mud, and the contractor might pump out a lot of cement with the water. And as everyone knew, contingencies were apt to arise that prevented that perfect job from being attained. Even then, however, we were not hopelessly lost, for by means of a really efficient waterproofer, a waterproof cement rendering could be put over the whole of the basement, cellar, or underground tank. It would, of course, be easier to do this when there was no water pressure to deal with, but it was possible with a waterproofer that completely changed the setting time of cement to cover all the inside surface with waterproof cement rendering which remained where it was put, because it set just as soon as it was put on. There might be jets of water pouring out like a horizontal fountain; those could also be stopped by means of a waterproofer that still further accelerated the setting of cement. By opening out the hole, it could be plugged with a "sausage" of cement which was applied by hand, forced into the hole and held there to enable the cement to get harder, until, in about one minute from the beginning of the operation, the plug was set hard and the water jet stopped. To those who were not familiar with that operation, it sounded like a fairy tale. One would naturally say that the waterproof rendering on the inside of a wall or floor was on the wrong side when the pressure was on the outside. If it could be shown that, in practice, the rendering did hold, one would agree that the method had great advantages over the alternative method of excavating to the back of the wall, then pumping while a waterproof covering was applied to the back of the wall. Floors could not be treated in that way. By rendering the wall and floor on the inside, in the case of a cellar a watertight box was made which was always open to inspection and could be repaired. Where there was heat, such as in boiler stokeholds, great care should be taken to insulate the portion of the floor affected by the heat. A completely waterproofed dish should be made, the bottom and sides of the dish being waterproofed and joined to the waterproofed floor of the whole room. The dish should be from one to two feet larger than the furnace area and should be filled with insulating tiles or bricks on which the furnace should rest. If that was not done, there was a liability to cracks and consequently leakage. It should be noted that a waterproofed cement rendering needed no protective covering as in the case of asphalting, and that it was ready in itself to take any decoration, tiling or other treatment that might be desired. Moreover, the inside waterproofed cement rendering could be done on floors and walls, generally not more than one inch thick, as against five inches required by an asphalt brick-covered shield. Before attempting a waterproofed, cement rendered covering, it was necessary that the surface should be thoroughly roughened or hacked. Ordinary hacking as for plaster was not enough; the whole skin must be destroyed with a hacking hammer, not with a pick-axe as the speaker had once seen done in an attempt to carry out these instructions. All corners, especially those between floor and wall, should be cut out and a cove fillet inserted. It had been shown that it was advisable to waterproof all structures during construction, but that even with a reliable waterproofer added to the cement, success could only be expected with the best materials and workmanship.

Rainwater Percolation.

In the case of brick, stone, or concrete buildings, even though cavity walls were employed, there was often trouble with rainwater percolation through and around the chimneys. An architect informed the speaker lately that he always covered those places with a reliable transparent waterproofer in new houses. It saved a lot of trouble afterwards. Where brickwork in solid walls suffered from rainwater percolation, various remedies, such as rough casting, wall tiling, etc., had been resorted to. An efficient method of waterproofing brick or stone walls was now available, which yet preserved the fine brickwork appearance. This result was given by a transparent liquid that might be painted on to the face of the wall, making it waterproof and so frost-proof. It was desirable that that type of waterproofer should allow the inside moisture to dry out; that was to say, that the covering should be impervious to water from the outside and yet should permit of a restricted passage of damp air from the inside by evaporation. Similarly, cement rendering might be quite watertight, but not necessarily petrol tight. The speaker had a case in point to deal with where a certain petrol sump was quite impervious to water but allowed petrol to pass through to such an extent that it contaminated the water well some distance away. In conclusion, he would offer a word of warning to those who thought they could do cheap waterproofing by painting liquids such as described above on floors, flat roofs, and such like places for which such materials were never intended. Those liquids should be used only for rainwater percolation where the water ran off and did not settle in puddles.

Specific Cases.

The lecturer then gave details of cases where waterproofing measures had been adopted.

Case 1. A swimming bath had been built in the bed of a stream. The stream had been diverted to each side of the bath in pipes. When the concrete was completed, attempts were made to lay the white glazed tiles. That could not be done, however, because the concrete was of a rather porous nature, and the cement bedding for the tiles was washed off as soon as it was laid. The tilers, finding it impossible to carry on, had given up the job. The contractor did the best thing he could do under the circumstances, viz., he called in an expert firm of waterproofers. Pumping being ruled out, the only thing left to do was to lay a waterproof carpet over the whole surface. This was done by means of a 1-in. thick cement rendering, the cement being made to set as

fast as it was laid, the fast setting being attained by means of a fast setting waterproof liquid. It was not all as plain sailing as it sounded, for there were always certain jets of water which had to be stopped by a still faster setting cement which set too fast for plastering. A liquid which set cement in 10 to 15 seconds was then resorted to, and used as already described. It was usually thought by the inexperienced that it was only necessary to plug the holes and the job was done. The effect of stopping the holes at first was obviously to close the safety valve, for the jets of water acted as relieving forces, reducing the pressure over the whole. If they were stopped the pressure over the whole surface was increased. Therefore, the carpet must be spread first and the holes in it repaired afterwards.

Case 2. The basement of a general draper's shop in the High-street, Oxford, was so wet that all the dresses that were kept there became ruined from the damp on the walls. This was successfully dealt with by waterproofing the walls only by means of a waterproofed rendering. In this case, it was not found necessary to do anything to the floor.

Case 3. On the other hand, a new basement built at Bournemouth by a builder's merchant and lined with asphalte proved a failure, both in floor and walls. Of course, only weight or reinforcement would give the necessary strength to floors, but it was strange that so many people did not believe that there was any necessity to build floors strong enough to withstand upward pressure from water. Although the structure was on high ground, in what was generally sandy soil, yet there was a great deal of water in the walls as well as the floor. After removing the asphalte and half-brick walls covering it, the basement was successfully made watertight. The floor was weighted with more concrete and reinforced with old tram rails.

Case 4 concerned a reinforced concrete tank on a staging 40 ft. high. This was a clear case of deterioration going on in a structure that was quite watertight when built, but after four years began to leak at the construction joints. Small particles of cement had been washed out, and as that went on, more of the cement took its departure, and more water with it, until the owner began to look around for a remedy. It was decided that the tank must not be put out of use, so it was repaired from the outside while the tank remained full of water. All the leaks were in the construction joints and were stopped in the usual way with a free use of hammer and chisel. It was worth mentioning that 18 degrees of frost on the grass were recorded on the morning after the job was completed, without producing any evil effect.

Case 5. A boat-house and water-way were converted into a swimming bath, a difficult operation for the original contractor, made more difficult by the arrangement carried out by him. He had from the beginning built up two sump holes with 12-in. earthenware pipes inside the job instead of outside, as they should have been. Naturally, the pumps removed a great deal of the cement during construction, and what was left was largely mixed with mud. The result was that the bad concrete gave no hold to the new waterproofed fast setting cement rendering. As the rendering was laid on in one day, it was forced off on the next, pulling off the face of the concrete with it. An attempt was made to fill the sump hole, but no junction could be effected with the surrounding concrete. Obviously, a very heavy waterproof carpet was required; so a 6-in. thick, rapidly setting, cement concrete was laid, made to set in half an hour or less, and joined up with the walls. That gave something to work from, although it reduced the depth of the bath. Had the contractor started with rapid-setting cement concrete, with his sumps outside the job, there would have been no further trouble.

Case 6. The basement of a bank had been wet for twenty years. The remedy consisted of lining with a waterproof cement rendering only 1 in. thick. The wall on the outside of the lining was still as wet as ever, but inside it was so dry that the room was used as only an absolutely dry place could be used with safety.

Case 7 concerned a 7-ft. diameter culvert under the sea at Southampton made up of pre-cast concrete rings 4 in. thick. There was a considerable amount of leakage of sea water in the joints of the rings. The head of water over the top of the culvert was 20 ft. The method adopted was first to cut large holes as big as a cricket ball on each side of the standing water at the bottom. That had the effect of reducing considerably the pressure at the top and all round the culvert, the large holes acting as useful safety valves. All the original jointing material was then cut away and refilled with waterproofed fast-setting cement. The large holes at the bottom were closed by gradually reducing their size until they were small enough to be plugged with the sausage of cement. That case was a good example of the system previously described as "first spreading the carpet, and then mending the holes in it." The difference is only in the fact that the holes were purposely made in this case in order to relieve the pressure on the rest of the work.

ARCHITECTS' AND BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

***We do not undertake to reply to inquiries concerning proprietary materials.*—ED.**

QUESTIONS.

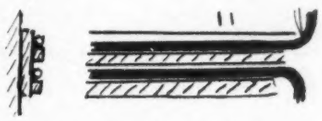
Hot Water Piping.

SIR,—We should be glad to know what objection, if any, there is to the use of lead piping for hot-water pipes. G. M.

[A theoretical objection to lead as a material for hot-water piping is that it is more readily affected by soft waters than either iron or copper. Water is softened by boiling. Very minute quantities of lead may have ill-effects on persons whose systems are in such a state as to render them readily susceptible to lead-poisoning. Many people fill kettles or pans used in cooking from hot-water pipes to gain time.

Practical objections have, however, in certain circumstances, more weight. By reason of expansion and contraction, stretch and sag are set up in hot-water pipes of lead unless they are supported throughout their entire length, and the pipes may be weakened to the point of fracture.

This difficulty may, however, be overcome by using pipe boards with continuous supporting fillets.



To a lesser extent the same objection may be made to cold-water supply pipes run in lead, but the variation in temperature and consequently in the amount or degree of expansion and contraction is much greater with hot water service pipes than with cold.

On straightforward runs with comparatively few bends it is cheaper to run services in galvanised iron piping, and under average conditions copper tubing of light gauge but ample strength compares favourably with lead piping properly supported.—A BUILDING SURVEYOR.]

Question of Certificate.

SIR,—On a recent contract, work has been measured for certificates by the quantity surveyor, and the architect has issued such certificates on the surveyor's report. The contractor having filed his petition and the contract being determined, it has been found that the work has been over-certified above its value. The employers have instituted proceedings against the architect for negligence. What is the position of the architect? It would seem that it is his responsibility to certify correctly, and yet it would appear that he would have no case to recover from the surveyor. CASE.

Flue Linings.

SIR,—Can you advise me whether tubular fireclay linings are obtainable for ordinary flue construction and whether their cost is prohibitive? BUILDER.

ANSWERS.

Domestic Hot Water.

[ANSWERS TO "PROPERTY OWNER," APRIL 14.]

SIR,—Considering the amount of supply required, it would appear that the cylinder is too big rather than the boiler too small. This can be easily remedied by raising the primary circulation to the cylinder so as to leave dead water in the lower part and reducing the effective capacity to about thirty gallons. This is a comparatively simple operation which should not cost more than about 50s. CHEAPER.

SIR,—A range boiler should easily do the work asked for by your querist. A frequent cause of poor results in a range with a built flue is too great depth of flue from back to front. On several occasions I have reduced this from 4 in. or 5 in. to 2½ in. or 3 in. with perfect success. This modification can be made at trifling cost. If the flue is a cast-iron one by a reputable maker, some other cause must be sought. G. R.

SIR,—Several things may need to be remedied.

(*a*) Where is the cylinder—near the boiler?
(*b*) Are the pipes from the boiler the right size and without very acute bends?
(*c*) Are the flues to the boiler properly controlled, or does the flame simply go up flue and not round it?

These questions require answering before a new boiler is thought of. G. W. H.

One-pipe System.

[ANSWERS TO "C. A.," APRIL 14.]

SIR,—This system is really a vertical extension of the drain needing very efficient and experienced laying and jointing. The system is now permitted under licence by the principal sanitary authorities and is likely to be recognised in forthcoming L.B.A. amendments. UNUS.

SIR,—Several large jobs have been done in London, by arrangement with the councils concerned, but it is "not law." A very large body of sanitary authorities sat in conference some time back, and the general contention, I gather, was that very many things would have to be done before it could be law, and one point was the registration of plumbers for the work, even if it became law. G. W. H.

Priming for Zinc Coating.

[ANSWER TO "M. C. L.," APRIL 14.]

SIR,—The zinc spray treatment is a protection against rust under subsequent coats of paint, and is in a sense a priming in itself. Three coats of good quality white lead and oils have been found to provide a satisfactory finish. PRIMER.

Strength of an Oil Tank.

[ANSWER TO "RESISTANCE," APRIL 14.]

SIR,—The pressure of oil upon the 4½-in. brick container would be very considerable, and theoretically sufficient to cause collapse. If your correspondent is really nervous that such conditions might arise, he would be well advised to band the brickwork with strong W.I. bands at, say, 9 in. intervals in height. But why enclose the tank? REINFORCEMENT.

NEW PUBLIC WORKS

PROPOSALS for dealing with unemployment have been submitted to the Government by the County Councils' Association, and arrangements for a deputation from the association to be received by the Minister of Health and the Minister of Labour are being made. The Association, in their memorandum, pointed out that houses were still needed in rural areas, and could now be built at a price of £300, of which at least 45 per cent. represented labour costs on the site, to which might be added a further substantial percentage in respect of labour engaged in the production of materials. Such work would absorb a large number of unemployed men. It was believed that satisfactory loans could be obtained from building societies at a rate of interest which would make economic rents possible. . . . The experimnet of undertaking large schemes of road construction and reconstruction had already been tried, and had proved to be of little value in relieving unemployment. Reduction of road expenditure appeared, however, to be preventing in some cases the execution of necessary and urgent works, such as the reconstruction of weak bridges, the improvement of dangerous corners, the by-passing of congested areas; and the economic completion of unfinished schemes. . . . There were throughout the country a number of cases in which new schools were needed, but it appeared that the sanction of the Board of Education could not be obtained otherwise than in the most urgent cases, unless a definite annual saving could be shown. This embargo might be relaxed to a moderate extent with advantage to the education service and to unemployed men in the building and allied trades. It must be borne in mind, however, that the school population would show a gradual decrease estimated to reach 1,000,000 by 1940, and the question of additional school buildings must therefore be approached with caution. In addition to the schemes which might be put in hand by local authorities with financial assistance, and which offered scope for early employment, there were other proposals of a long-range character which could be undertaken only by the Government. These were land reclamation and land colonisation.

We continue our list of new public works shortly to be commenced. Details of other work will be found under "Contracts, Competitions," and "Current and Proposed Building Work."

Bournemouth.

The Town Council is applying to the Ministry of Health for sanction to borrow £70,130 for the erection and furnishing of a pavilion.

Gillingham.

The Council invites tenders for the erection of an infants' school in Skinner-street, Gillingham, Kent (to accommodate about 300 children), to plans by Mr. John L. Redfern, A.R.I.B.A., Borough Engineer and Surveyor.

Middlesex.

It is stated that the Ministry of Transport has approved a 60 per cent. grant to Middlesex County Council for completing the Chertsey-road and Western-avenue. The total cost is estimated at £170,000.

Morecambe.

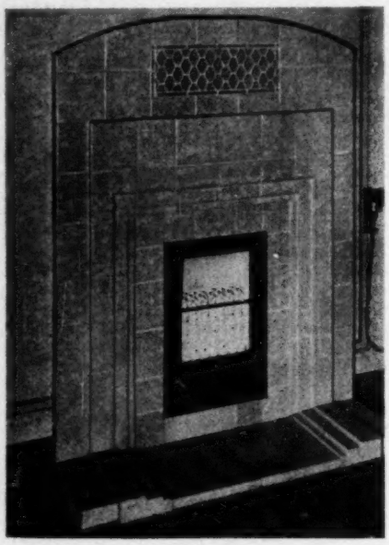
Morecambe and Heysham Town Council has approved a scheme for the improvement of the old harbour, and the construction of a new promenade, bathing-pool, crystal hall, an amphitheatre, solarium, and sun-bathing terraces. Plans for the pool, etc., have been prepared by Messrs. A. W. S. and K. M. S. Cross, F.R.I.B.A., 44-6, New Bond-street, W.1, in conjunction with Messrs. Sutton and Son. The scheme has been forwarded to the Ministry of Health, and will be put into operation should sanction be given.

Swindon.

The Commissioners of His Majesty's Works, are prepared to receive tenders by May 2 for the erection of Swindon Sorting Office.

THE "IDEAL HOME" EXHIBITION

AMONGST the more pleasant features of this exhibition is the variety of outdoor effects that have been obtained. One, which is creating especial attention, is a reproduction of a Surrey lane, which has been formed as a setting to the village of modern houses in the National Hall. This setting, with willow trees placed on grassy banks, its outcrops of weathered stone, a water-rill, waterfalls and pools, is freshened daily with wild primroses, violets, iris, daffodils, ferns, moss, broom and flowering gorse brought specially from the country. Messrs. W. H. Gaze and Sons, Ltd., of Kingston-on-Thames, the landscape gardeners and builders, who are responsible for this setting, have designed and laid out adjoining a formal garden with an apple tree in full bloom. In the centre (as will be seen from the illustration which we give) is a fountain pool approached by stone paving, and here are masses of richly coloured flowers. A pergola, with climbing plants, forms a background and the whole treatment skilfully reveals what can be made of a small plot of land. The exhibit includes all types of grass-green and non-attention hard tennis-courts, in which the house of Gaze are specialists. These trouble-free courts not only eliminate all daily upkeep, but the colours of the hard surfaces are particularly harmonious.



A Davis "Panella" Gas Fire at Olympia.

Visitors to the Heating and Lighting Section in the Grand Hall will appreciate the strides forward made by the gas industry in design of apparatus, economy in working, ease of control and, most important, efficiency of result. All types of gas apparatus for domestic use may be seen on Stand 56 (Grand Hall), where seven large London gas companies are represented by the London Gas Exhibit Committee, who have combined to demonstrate the many labour-saving possibilities of gas. In conformity with the modern tendency for colour and cleanliness in the home, the gas-consuming appliances displayed are designed with this end in view, namely, to reduce cleaning to a minimum and enhance the decorative effect in any room from the kitchen to the bathroom. Every branch of the domestic uses of gas—lighting, space heating, cooking, water heating, ironing and refrigeration—is demonstrated with the most modern fittings and appliances, all of moderate cost and each in its appropriate setting, thereby giving a comprehensive idea of how they would appear in the home. A special feature is made of coloured gas fires indicating the variety and attractiveness of these useful additions to the home, and as an alternative, a special grate designed to burn solid smokeless fuel is shown. Also shown for the first time at this exhibition is the Davis "Panella" gas fire, an efficient and attractive fire, which we illustrate.

The Triplex Foundry, Ltd., to show the heating capacity of the ordinary coal fire of a Triplex grate, have fitted an 80-gallon calorifier to a grate exhibited at Stand 108, Grand Hall. The usual fitting is a cylinder of only 30 gallons, which, however, is sufficient for the supply of one bath-tap and three other hot taps. The hot water from the calorifier trickles down a dredge, so that the temperature of the water can be judged at a glance. A special kettle boiler hob fitting has been invented by the Triplex Foundry, Ltd., and is also being shown at the exhibition. It fits closely over the fire, making it draw up quickly, and its use, it is claimed, will make a kettle of water boil within a few minutes of the fire being lit. A comprehensive range of Triplex grates are shown, with varied tiled effects. The "Tweenie" combination grate is also on view, and this is of particular interest where a satisfactory cooking and water-heating unit is required which will function at a low cost.

Leicester War Memorial.

Two new entrance lodges are to be added to Leicester's War Memorial in Victoria Park, as originally planned by Sir Edwin Lutyens, the designer of the Memorial Arch and Memorial Gates. The cost is being defrayed by Sir Jonathan North.

A Formal Garden by Messrs. W. H. Gaze & Sons, Ltd., at Olympia.

THE BUILDING TRADE

MINOR PROBLEMS OF CONSTRUCTION AND REPAIR—XVI

By A BUILDING CONTRACTOR.

SUPPLEMENTARY HOT WATER FITTINGS.

When considering supplementary fittings intended to assist in raising domestic hot water supplies, one's thoughts turn naturally to gas and electricity. There are, however, many houses for which a supply of either is still unavailable except at a prohibitive cost. For such the only practical alternatives are a solid fuel or an oil-burning boiler. Quite a good case may in certain circumstances be made for preferring a solid fuel boiler that may carry out supplementary duties for the greater part of the year, and be given full duty for a few weeks at mid-summer. In any event, the coke-burning boiler would have a claim to consideration, if for no other reason than that it will destroy, and raise heat out of, household rubbish.

When called upon to advise on the improvement of an existing system of domestic hot water supplies, it is necessary to have regard to the underlying principles governing the two systems most commonly met with: the tank system and the cylinder system.

The Tank System.

This system takes its name from the fact that in early times the hot water was often stored in a tank, open at the top, that was placed on the same level as the cold storage cistern or tank. Later on, when closed-in rectangular tanks came into use, the tanks were placed at a lower level, as shown in diagrams A, A1 and B. It is obvious that a cylinder could be used instead of a tank in exactly the same manner as that shown in each of these first three diagrams, but this would not result in their becoming examples of the cylinder system. In diagram B the tank is shown in a similar position to that often chosen for a cylinder, and as soon as we come to understand why it is that B shows a tank system, while B1 shows a cylinder system, we have got over the first fence. It is a fence at which many fall, for it is often found that though thought may have been given originally to the installation of a cylinder system, some plumber has later branched in for an additional fitting and so turned the scheme into a tank system.

Diagram B shows a tank system, because in the event of the cold supply being shut down the tank (hot store) could be emptied at the tap over the sink. The water would flow down the primary return, through the boiler, pass up the primary flow as far as the branch to the sink, and so escape along that branch. This could not happen under the arrangement shown in diagram B1, and consequently though a tank is there shown, it is on a cylinder system.

The Cylinder System.

The main advantage of the cylinder system is that it is safer where cold services are intermittent or liable to be interfered with by frost. Unless the expansion pipe becomes choked, failure to obtain hot water at the draw-off taps gives ample warning that something has gone wrong, and then only the most stupid would keep the fire going until the safety valve blows off. Even without a safety valve (and they are omitted with lamentable frequency) there is a much greater margin of safety with a cylinder than with a tank system.

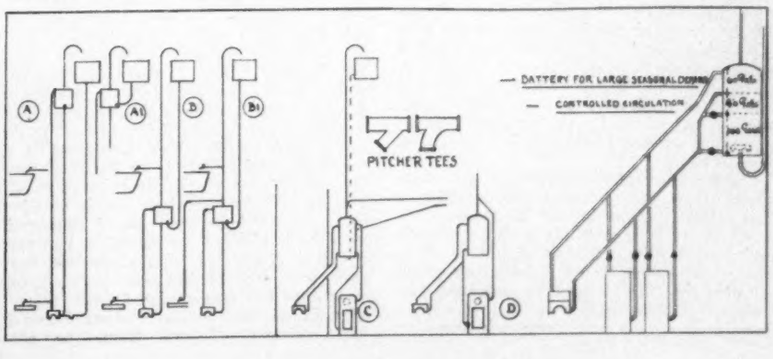
As compared with a tank, the cylinder, by reason of its shape, has an advantage in that it is much stronger. This is perhaps best illustrated by quoting the respective tests applied by the manufacturers to tanks and cylinders made of galvanised iron in varying thicknesses.

The pressure on either a cylinder or tank is easily ascertained by measuring down from the water level in the cold store to the bottom of the cylinder or tank, and allowing one pound of pressure for a head of 2 ft. 4 in. From this it will be seen that if a tank is placed below the kitchen ceiling of a two-story house, and the cold cistern on the bedroom ceiling joists, the sides of the tank would be likely to bulge, and thus start the seams, if of less than $\frac{1}{8}$ in. plate; whereas a 14-gauge cylinder would stand three times as much pressure and cost less money. A 3-16 in. plate tank with a man way of good size does, however, possess the advantage of being easily housed, readily lagged, and new connections are more easily made than with the cylinder.

Metal of ..	16 gauge	14 gauge	12 gauge	$\frac{1}{8}$-in. plate	$\frac{3}{16}$-in. plate
Tanks	Tested to pressure of 1lb. per inch.	3 lbs.	4 lbs.	5 lbs.	10 lbs.
Cylinders ..	5 lbs.	15 lbs.	20 lbs.	25 lbs.	40 lbs.

Diagram C shows a cylinder system that has the advantage of a secondary flow and return connected to it after a manner met with in good practice, and an auxiliary boiler connected to the body of the cylinder. When an auxiliary boiler is connected to an existing system, and especially to one that has been in existence for a considerable time, there is always some risk of inter-circulation between the boilers, if the new connections are made to the existing primary flow and return pipes. It is not very easy to prove this point in theory, but the difficulty is met with in practice. For this reason the method shown in diagram C is to be preferred to that of diagram D, though the latter has on occasion been adopted without any marked ill-effects. By using pitcher tests on the branch joints, the disinclination of the water to circulate in the required direction may generally be overcome.

So far as we have now gone, the points made apply to solid-fuel burning boilers and to some types of gas boilers, and as regards first principles to oil-burning boilers also. Such great advances have been made in regard to gas and electrical apparatus serving the same purposes, that they may well be left over to the next article. It is the gas-cooker that has led to such a large demand for auxiliary means of raising hot water, and the main struggle for possession in this field has been between the gas and electrical industries. The maker of solid-fuel burning apparatus has not, however, been pushed on one side. In point of fact, he has made very great headway, and in the colder northern counties is very far from being beaten. All his products cannot be dealt with here, but it may be said that when new houses have to be fitted, an independent coke-burning boiler is effective and economical, and may often with great advantage be given the double duty of heating at least part of the house as well as raising abundant hot water supplies.



BUILDING INDUSTRIES NATIONAL COUNCIL

FIRST ANNUAL MEETING.

The first annual meeting of the Building Industries National Council was held at the Royal Institute of British Architects on Thursday, April 13, presided over by Sir Raymond Unwin. Reports of the General Purposes Committee and of the Special Committee for Public Relations were presented by the respective chairmen.

In presenting the report of the General Purposes Committee, Mr. Sydney Tatchell, the chairman, stated that the committee was of the opinion that, notwithstanding the difficulties that were found to be inherent in arranging the machinery for carrying on the several different functions which the Council proposed to perform, very substantial progress had been made, both by overcoming these difficulties and in the actual task that the associated bodies had laid on the Council. It was confidently felt that once the machinery was clearly settled the value of the Council to the industry and to the public would be increasingly manifest.

In presenting the report of the Special Committee for Public Relations, the chairman, Mr. Howard Robertson, stated that there could be no doubt that the educative campaign conducted by the committee had played a major part, and certainly an essential part, in influencing, if not converting, public opinion with regard to wise spending. It was felt that a further impetus might be given to the work of the committee by the formulation of a definite plan showing the types of work which in the wide sense would best satisfy the conditions of being remunerative and of meeting real needs, while at the same time absorbing the maximum number of unemployed.

Mr. Kenneth Thomas, of Messrs. Kenneth Brown, Baker and Baker, was appointed honorary solicitor.

It was generally felt that good progress had been made in the work of the Council.

A Glass Convention.

The British glass industry will hold its third convention at Buxton in May, from 18th to 20th. Sir Max Bonn, K.B.E., will preside, and there will be addresses and discussions by well-known authorities on such questions as co-operation in industry, hours of work, recent technical developments in the glass industry, education and research. A brochure giving full details of the programme can be obtained shortly from the honorary secretary of the convention, Mr. Geoffrey Marchand, M.A., Director of the Glass Manufacturers' Federation, Norwich House, 13, Southampton-street, High Holborn, London, W.C.1.

THE BUILDING RESEARCH STATION

QUESTIONS AND ANSWERS.*

THE following abstracts of inquiries represent a number of those recently submitted to the Building Research Station. The information given in the replies quoted is based on available knowledge. It has to be borne in mind that further scientific investigations may, in the course of time, indicate directions in which the replies might be supplemented or modified. Moreover, the replies relate to the specific subject of each inquiry, and are not necessarily suitable for general application to all similar problems.

Preventing Efflorescence on a Brick-faced Garden Retaining Wall.

An architect was concerned with possible methods of preventing the appearance of efflorescence on the facing bricks of a garden retaining wall. It was the intention to construct the wall in reinforced concrete with a 4½ in. brick facing bonded to the backing with metal ties, and he required the views of the Station on the following alternative methods of treatment :—

(1) To execute the concrete wall in high alumina cement and to bed the facing bricks in the same type of cement.

(2) To build the brick facing in lime mortar and to paint the back with a proprietary bitumastic paint.

(3) To employ a bitumastic paper between the facing wall and the concrete backing.

The architect added that the extra cost involved in carrying out the first scheme would be considerable, while the second scheme would, of course, fail if the impermeable coat was not continuous.

REPLY.—At the outset it should be mentioned that the problem of preventing efflorescence is one of considerable difficulty, but the following points would probably merit consideration in relation to the various alternatives :—

(1) High alumina cement would, in itself, certainly be less likely than Portland cements to give rise to efflorescence, but it must be borne in mind in either case that salts from the soil will be liable to pass through the concrete. It seems doubtful, therefore, whether the additional expense involved would be justified.

(2) A really continuous film of bitumen on the back of the bricks should be effective. This, however, has the disadvantage referred to, and, if it is to be reliable, the bitumen must be very carefully applied, and care must be taken not to injure the film when the concrete is poured. There is on record at this Station one case where a retaining wall erected in this way on a very wet site was quite successful and no serious efflorescence occurred.

(3) A bituminous paper or felt would probably be very difficult to apply in such a manner as to provide a continuous membrane. Moreover, the ties would undoubtedly be a source of trouble, and the laps of the paper would have to be satisfactorily waterproofed.

Unless the cost is prohibitive, it is strongly urged that the most satisfactory method of construction from the point of view of freedom from efflorescence would be to keep the concrete and brick facing separate with a cavity between them. There would be no difficulty in tying the brickwork to the concrete backing, and there would be reasonable certainty of avoiding efflorescence due to salts in the concrete or in the soil. It will obviously be desirable, if this form of construction is adopted, to provide efficient damp-proof courses at the top and bottom of the brickwork.

In order to avoid efflorescence due to salts derived from the jointing and pointing, a dense cement mortar should be avoided. A greystone dry hydrated lime with a moderate gauging of Portland cement should be satisfactory. The lime should be obtained under guarantee that it will pass the soundness test developed at this Station.

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Deterioration of Roofing Tiles Embedded in Mortar.

In a case of failure of clay roofing tiles, it was stated that the tiles were old and had been removed from an old roof, stored, and used again for roofing purposes. During the past winter a large number of tiles had split and cracked badly on the north-east slope of the roof, and samples were forwarded for inspection. The architects were puzzled as to why this should have occurred, since, apart from age, the tiles were in good condition when relaid, and had already stood for a number of years. From a visual inspection of the samples, it appeared quite likely that frost may have been an important factor in the disintegration. On further inquiry, it was learned that, in relaying, the tiles were laid on a mortar bed, whilst originally they were fixed on the old roof with oak pegs.

REPLY.—It is our experience that frost is the most potent agent in the destruction of clay roofing tiles, and the liability to fracture will largely be determined by the conditions which control the moisture content of the tiles, and, in particular, the readiness with which they can dry out. Such factors as pitch, camber and aspect all play a part in this, but bedding in mortar would undoubtedly reduce the ventilation, and will produce the same effect as torching, which not only retards drying out, but increases the amount of moisture held in the roof, since the mortar acts as a reservoir. The fact that the trouble is confined to the north-east slope, upon which drying conditions will be less favourable, is also significant, and lends further support to the view that frost action is the main cause of the failure. It may be observed that, though the tiles appeared to be perfectly sound prior to re-use, it is most likely that their resistance to disintegrating influences will have been lessened by their previous exposure. Tests on clay materials have shown that their resistance to disruptive forces (*e.g.*, crystallisation of salts) at any stage in a laboratory freezing process may be considerably weakened even before any visible signs of deterioration have appeared.

Decay of a Solid Wood Floor.

A somewhat unusual case of decay of a solid wood floor was brought to the notice of the Station. The construction was a common type, consisting of dovetailed wood fixing battens laid on a concrete base and covered with deal flooring; hot tar-pitch was poured over the surface of the concrete before laying the boards. The surrounds of the floor had been stained, and the decay was confined solely to this area. The unstained portion appeared to be perfectly sound, although one batten beneath this area was reported to be affected. A sample of the decayed wood was forwarded for inspection.

REPLY.—No case of an identical nature has been previously reported to the Station. From a superficial examination of the sample forwarded, it seems that the stain was a fairly thick varnish stain, and actually this seems to be the most probable cause of the trouble. The thick covering of the stain has provided a virtually impermeable membrane, almost equivalent to linoleum or rubber covering. Impermeable coverings of this kind are a very prolific cause of dry-rot in floors, since any moisture which finds its way to the timber is retained. The decay of the batten can probably be attributed to normal causes. The embedment of timber in solid floors is very liable to lead to decay unless the preservative treatment is very thorough, and actually, in light of present knowledge, this particular type of construction is to be deprecated. It is noted that the sample of decayed board appeared to have been affected by Merulius Lacrymans, a rather aggressive type of dry-rot fungus, and one which demands very thorough measures in eradication, since once the growth has commenced, it is capable of finding sufficient moisture from the air to flourish without any other source of water. It is suggested, therefore, that any timber showing signs of infection, however slight, should be taken up and burnt, and that it would be very desirable to treat the boards with preservative before relaying the floor. It would also be preferable in staining the surrounds to avoid the varnish stain of the type previously used; a preservative stain, such as Solignum, is quite suitable, and there are also a number of spirit stains which should not give an impermeable finish. It is assumed, of course, that any possible source of moisture access will be dealt with. It might also be as well to make good the tar-pitch covering before relaying, since it may well have been broken in taking up the boards.

Failure of a Setting Coat of a Ceiling on Expanded Metal Lathing.

Failure of a plaster ceiling on expanded metal lathing was reported. On inspection, it was observed that the setting coat, stated to be a "Keene's" cement, had come away from the undercoat. Moreover, on the samples of the setting coat brought away for examination, an appreciable film of white salt was adhering to the part where the coat had been in contact with the backing. Little information could be elicited regarding the composition of the undercoat, but, from a visual inspection, it appeared to be Portland cement probably lightly gauged with lime. Both a pink and white Keene's had been used. It was interesting to note that the failure was solely confined to the pink type.

REPLY.—The samples of the setting coat brought away have been superficially examined, and the following observations on the failure are offered :—The plaster is a pink-coloured, hard-burnt calcium sulphate plaster containing lime, apparently well carbonated. The considerable amount of white efflorescence is the result of crystallisation of soluble salts on the back of the finishing coat. This is often found in cases of failure of adhesion of calcium sulphate plasters, in particular when over a Portland cement backing, the white, powdery layer generally including both salts derived from the backing or plaster and fine particles of the plaster which may have failed to set in a coherent form. The type of plaster employed in this case is sometimes slow in setting, and, under favourable circumstances, the material in contact with the backing may dry out in a crumbling layer before it has a chance to hydrate properly. If, subsequently, the plaster becomes moist through condensation on the front, or percolation of water from the backing, further hydration will occur, and may result in uneven expansion, buckling, and total loss of adhesion in certain areas. Once a gap forms, efflorescent salts will tend to accumulate here and complete the damage. It should be noted that a plaster of this kind is not a true Keene's cement of the traditional type. The failure exemplifies one of the major difficulties which exists at the present time. In the absence of any formal specifications, reliance has to be placed on a very ill-defined nomenclature, and the user has no guarantee that the plaster has suitable properties for the work in hand.

The remedy would appear to be, first, the thorough cleansing of the exposed cement surfaces from efflorescent salts; secondly, the use of a Keene's cement which is well accelerated in order to gain strength rapidly, rather than a cement which may have a fast initial stiffening, and which has, consequently, to be "killed" to get it on, but has a slow subsequent rate of hardening. The backing should be well wetted before application, though not sufficiently to cause the material to slide off. Some effort should be made to decrease the rate of drying after application, at least to the extent of discontinuing the heating for a few days.

Fire Resistance of Sand-lime Bricks.

An architect wished to know at which temperatures sand-lime bricks, both in a dry and wet state, would be damaged by fire. He also desired information as to the temperatures which may be reached in buildings such as flats in the case of a serious fire.

REPLY.—Tests have been carried out at the Station on sand-lime bricks fired for periods of one hour at 600 deg. C. No appreciable cracking or disintegration was noticeable at this temperature, though there was a loss of strength of the brick up to 35 per cent. of the original unfired values. Further, tests have been carried out by the United States Bureau of Standards, Washington, on walls 8 in. and 12 in. thick built of sand-lime bricks, laid in a cement-lime mortar. These tests were carried out on sections of wall both unloaded and under a working load, the furnace temperatures on one side being raised from 927 deg. C. after 1 hour to 1,370 deg. C. after 10 hours 40 minutes. None of the 8 in. walls failed either as the result of deflection or applied load. One 12 in. wall, however, failed shortly before 10 hours due to weakening of the bricks on the furnace side. Cracks up to ⅛ in. wide showed on the outside of unloaded walls, but cracks were very slight on the heated side. Headers were seldom found cracked in the central portion of the wall, so that the integrity of the wall as a building member was maintained. Tests were also carried out wherein the walls were exposed to fire for 1 hour, then withdrawn from the furnace and subjected to a stream of water on the hot side. These fire and water tests developed nothing that would change the conclusions based on the fire endurance tests. The following table is given :—

"ULTIMATE FIRE RESISTANCE PERIODS OF SOLID WALLS BUILT OF SAND-LIME BRICKS.

Nominal thickness of wall (unplastered).	Building members projecting into wall.	Fire resistance period.
8 in. ...	None or incombustible.	8 hours.
8 in. ...	Combustible.	3½ hours.
12 in. ...	None or incombustible.	10 hours.
12 in. ...	Combustible.	10 hours.

"For periods not exceeding 6 hours either Portland cement, cement-lime or lime-mortar not leaner than 1 : 3 can be used. For walls having periods above 6 hours Portland cement or cement-lime mortar should be used."

Tests have also been carried out in Stockholm on sand-lime brick walls 27 cm. thick built in cement-lime mortar and plastered both sides with lime and sand plaster. The testing temperatures were raised from 900 deg. C. after 1 hour to 1,165 deg. C. after 8 hours. At the end of the 8-hours fire and water test the wall appeared to be in good condition, the actual wall units having retained relatively sharp edges and corners, though the mortar had been destroyed to a depth of about 5 to 10 cm. and had been washed away in parts by the water. On closer examination, however, it was found that the bricks had been damaged on the exposed side, and showed cracks extending right through individual bricks as well as destruction of the actual brick material to a certain depth. The report states that both mortar and bricks were damaged to a depth of 5 to 10 cm., which measurements may also be taken to indicate the reduction in the effective cross-section which was caused in the wall (in its entirety) by the combined action of fire and water. To summarise, sand-lime bricks, although likely to undergo rather more deterioration in a fire than ordinary clay bricks, may yet be stated to show quite satisfactory resistance for ordinary use; in construction of buildings of the "flat" type there appears to be no objection to them on account of fire hazard. With regard to temperatures actually reached in building fires, it is regretted that no precise information is available for temperatures likely to be attained in a domestic building. A report of the United States Bureau of Standards, however, states that, in burning down a building of the office type stocked with records to resemble normal office occupancy, temperatures of 1,350-1,650 deg. F. were attained in 40 minutes to 1½ hours, and 1,500-1,780 deg. F. in 1 hour 40 minutes to 5 hours.

THE NORTHERN POLYTECHNIC

DEPARTMENT OF ARCHITECTURE: SPEECH NIGHT.

THE annual speech night of the Department of Architecture, Surveying and Building was held on April 6, the function being attended by a large number of distinguished representatives of the architectural and building professions and the allied crafts. The prizes were distributed by the Right Hon. the Earl of Crawford and Balcarres, F.R.S.

Mr. R. L. Roberts, M.A., Chairman of the Governing Body of the Polytechnic, who presided, stated that the two main objects of the Department always had been to give their students a thorough and adequate training in the theory and practice of their art, and, at the same time, to keep in as close contact as possible with the development of building outside the educational walls. He then mentioned that, in the presence of the Earl of Crawford and Balcarres, they had with them one who had shown devotion to the cause of art, whose presence was an encouragement to both staff and students. He hoped that Lord Crawford would carry away with him some appreciation of the work of the Department. The Chairman concluded by thanking the judges for giving of their time to the judging of the students' work, and the prize donors for their assistance which made up the deficiency caused by the recent economy measures, and enabled the prize giving to go on as usual.

Mr. T. E. Scott, F.R.I.B.A. (head of the Department), in presenting his report, stated that they had passed through a most satisfactory year. Although it was unfortunate that the number of students available for training in the Junior School of Building was small compared with those entering the industry, the official attitude towards technical education was at least encouraging for the future; all the boys who had left the school had been placed. He reported that the Day School of Architecture had completed a satisfactory but uneventful year; in the Evening School of Architecture, however, considerable progress was being made, and during the last session the R.I.B.A. had seen fit to extend to the evening school the recognition enjoyed for many years by the day school. This was the first evening school to earn this distinction. Certain of the day students proceeded to the Architectural Association for further training, and one had secured a place in the final competition for the Soane Medallion; another, Mr. J. G Pinckheard, had been admitted to the final competition for the Rome Scholarship in Architecture; and yet another past student, Mr. Denis Harrington, A.R.I.B.A., had been awarded the "Alfred Bossom Travelling Studentship," a feat of which the school was very proud. The work in the Evening School of Building had maintained the very high standard that had always been expected, but there was a considerable reduction in the enrolment this session, particularly in the case of first-year students. Despite the falling off in the numbers of students attending the school, it was very satisfying to note that the actual attendance during the last two or three weeks had been very much higher than for the same period in previous years. That could only be taken as evidence of the great enthusiasm with which the students were attacking their problems, and seeking to overcome the difficulties of the depression by hard work and study.

Mr. W. H. Ansell, F.R.I.B.A., Chairman of the Board of Architectural Education, then gave an interesting and inspiring address to the architectural students. His primary message to them was that, although their immediate outlook appeared to be bounded by depression, they should meet their difficulties with courage. Feelings of fear, national and private fear of poverty, loss of trade and loss of status were at the bottom of all the trouble, and his advice was that a difficulty met with courage was a battle half won. Architectural students needed this message, perhaps, more than ever, for they had been through bad times. These were bound to pass, and it was their immediate concern to fit themselves to supply the world's needs when the energy and money to pay for them were available. They were fortunate in having a building school in the same institute.

The students of building then received an address from Mr. G. Harding, President of the National Federation of Building Trades Employers. After remarking how great an interest his members individually took in the promotion of technical education, and the facilities that were offered to their apprentices by professionals for securing technical training in the daytime without loss of pay, he said that, while some men, having in mind their success in life, told of their useful failure to pass examinations, and others advocated the absolute necessity of success in examinations, it was his opinion that the foundation of success was based on the satisfactory accomplishment of the work upon which they were engaged in the Polytechnic. Although the building industry did not offer any glittering prizes, it offered great opportunities for service, and he considered that since the industry supplied one of the greatest human needs, facilities should be given for craftsmen to pass easily from one branch of the industry to another. The students of to-day should not be content with the immediate operation of the task in hand, but should take a real interest in the social problems of the industry, problems of new materials, new methods of construction, and the introduction of more and more machinery.

The prizes and diplomas were then distributed by the Earl of Crawford and Balcarres, who, in addressing the students, said that, in the first place, while congratulating those who had been successful, particularly "those who had been successful and not gained prizes," he would like to say that, never having won a prize in his life, and, believing that the majority of students were in the same position, he felt quite at home in the assembly. He had come to the conclusion that it was possible to fail in examinations, but to secure success where ingenuity, resource and wit took the place of correct facts in answers to questions. Students passing through a school such as the Northern Polytechnic had an opportunity of studying a wonderful machine. The average student seldom realised how tremendous and continuous was the effort required to keep it running smoothly and efficiently, and how grateful they should be to the governing body, to the staff, and their self-sacrificing parents, all co-operating to make education a really efficient machine. In conclusion, he would advise the students of to-day to learn the faculty of observation of their fellow-students, to see where one succeeded and another failed, and where their own efforts should be redoubled. They encountered there a little picture of life, the study of which would help them in their future life, laying the foundation of success in their craft and merit in their material citizenship.

Dr. T. J. Drakeley, Principal of the Polytechnic, then moved a vote of thanks to the speakers. This was seconded by Sir Raymond Unwin, President of the Royal Institute of British Architects, who paid tribute to the work of Mr. Roberts, the Chairman of the governing body.

The vote of thanks to the Chairman was proposed by Mr. C. Eaton, of the Board of Education, and seconded by Mr. L. Sylvester Sullivan, F.R.I.B.A.

Other speakers included Mr. J. Murrey, secretary of the National Federation of Building Trades Operatives, Mr. A. B. Knapp-Fisher, F.R.I.B.A., President of the Architectural Association, and Mr. H. G. Dowling, President of the Incorporated Institute of British Decorators.

THE WEEK IN PARLIAMENT

The Rent Bill.

During the concluding stages of the Rent and Mortgage Interest Restrictions (Amendment) Bill,

Sir R. Aske moved an amendment to ensure that where alternative accommodation was found for a sitting tenant whom a landlord sought to dispossess, the rent of that accommodation should not exceed what the tenant was then paying. A protective limitation of that nature would be of great practical importance in areas containing numbers of poor people and where there was a shortage of houses.

Sir Hilton Young, the Minister of Health, resisted the amendment, which was rejected by 230 votes to 58.

Sir Boyd Merriman, the Solicitor-General, moved a new clause to amend the existing law as to permitted increase of rent in respect of improvements and structural alterations. At present, he said, it was permissible to increase the rent in respect of structural alterations and improvements, but these words had a very limited meaning, and it was desired to extend permitted increases of rent in respect of cases where additional fixtures or fittings had been added by a landlord, or, in other words, in respect of reconditioning. Under this new clause a sitting tenant would be protected absolutely from any increase in rent if he was able to say that the improvement was not made with his written consent. On the other hand, if at the time the improvement was effected the landlord himself was in possession of a vacant house, the next succeeding tenant would be able to protect himself and resist an increase in rent unless he had received notice of the nature of the improvements or alterations, of the amount of expenditure incurred, and the maximum increase of rent chargeable on account thereof. That, he considered, was sufficient protection for both the sitting tenant and the succeeding tenant.

The new clause was added to the Bill by 230 votes to 42.

The Committee stage was concluded.

Slum Dwellers.

Mrs. Runge asked the Minister of Health if his Department had further considered the best methods of handling the temporarily dispossessed residents of slum areas under clearance; and whether, as a result of such consideration, he was prepared to offer any advice on the subject to local authorities.

Mr. Shakespeare said that the Minister had arranged that his officers should be available for consultation by individual authorities on all aspects of the work under the Act of 1930, but the circumstances of different towns varied so greatly that he was not at present clear that he could usefully offer any further general advice on this subject at the present moment.

Public Works and Unemployment.

Sir A. M. Samuel asked the Minister of Health whether he would issue a list of public works involving an individual expenditure of more than £25,000, excluding slum clearance, the building of dwelling-houses, schools, and labour exchanges, upon which public authorities, at this date, desired to embark by means of a loan-expansion policy, with or without Government aid; and would he also state the total estimated expenditure and the number of persons likely to be employed upon feasible schemes.

Sir Hilton Young said that this information could be obtained only by means of a return from the local authorities: and the return and deductions based on it would be subject to so many qualifications, as to its inclusive character, practicability of schemes, probable cost and extent of employment, and the dates by which employment would be available, as to have no practical value. Local schemes at any given moment were at all stages of preparation, and, before actual loan sanction, required careful examination. The statements already made had removed any doubt as to the ready sanction which awaited proposals for public works of a remunerative or useful character.

THE RENT RESTRICTION BILL IN COMMITTEE

The Bill to amend and continue the Rent Restrictions Acts has continued to have a smooth passage through Committee since our last notice, when clause 6 had been reached. On clause 7 coming under consideration, which enables local authorities to publish information and give advice for the assistance of landlords and tenants as to their rights and duties under the principal Acts and as to the procedure for enforcing them, an amendment to make this clause compulsory was defeated, but a necessary amendment was made by the Government by deleting the words "and to give advice," as it had been pointed out by the Association of Municipal Corporations that those words would place the local authorities in an impossible position, converting them into private lawyers. In connection with this clause and with clause 2, under which registers have to be kept by the local authority of parts of premises let as separate dwelling houses which the landlord claims to have become decontrolled, a new clause was inserted by the Government giving the local authorities the power to recover expenses thus incurred from the rates.

In clause 9, which relates to Scotland, the promise given by the Government to defer the date when the Bill should begin to operate to November 28 was fulfilled. An important new clause was introduced by the Government, the actual text of which is not yet available, to amend section 2 (1) (*a*) of the Act of 1920, which allows of an increase of rent in respect of expenditure on the improvement or structural alteration of the dwelling-house. As explained by the Solicitor-General, the intention of the clause was to extend the permitted increase in rent where fixtures or fittings had been added, or, as he is reported to name it, to reconditioning. Also, according to the report in *The Times*, he stated that under this clause the sitting tenant would be protected absolutely if he was able to say that the improvement was not made with his written consent; whilst, on the other hand, if at the time the improvement was effected the landlord was in possession, the next tenant would be entitled to resist the increase in rent unless he had received notice of the nature of the improvements or alterations, of the amount of expenditure incurred, and of the maximum increase of rent chargeable on account thereof This explanation, as reported, is not quite clear as regards the provisions as to notice, but we assume that, as regards the sitting tenant, the notice refers only to the new class of improvements introduced in this clause in the nature of fixtures and fittings; whilst, as regards the future tenant of premises left in control, the notice covers all improvements and alterations, both those under the principal Act as well as the fixtures and fittings now brought within the term "improvements."

A clause proposed by a member to reduce the amount of increased rent allowed for repairs was rejected, but two other amendments were accepted by the Government, the first requiring the sanitary authority, where they are satisfied that any dwelling-house is not in a reasonable state of repair, to issue a certificate to that effect to the tenant on application, and the second giving local authorities power to institute proceedings for any offence under the Acts. With these amendments and new clauses the Committee stage was concluded and the Bill was reported to the House.

NEW BUILDINGS IN LONDON

Aldgate.—Extensions.—For extension of the ground floor premises, together with staircase leading to basement, Mr. John Toba, F.N.A.A., surveyor, 16, Great Alie-street, Aldgate, E.1, has a building scheme on hand.

Barking.—Houses.—The Town Council are proposing to erect 200 new houses and 64 flats on Movers-lane housing site, at a cost of £71,500.

Barking.—Clinic.—Mr. C. J. Dawson, F.R.I.B.A., Clock House-chambers, Barking, architect to the Education Committee of the T.C., has prepared plans for a central clinic in Vicarage-field. Tenders are now being invited for the work.

Hayes. — Extensions. — The sleeper creosoting works of the G.W. Rly. Co. are to be extended. The contract has been placed with Messrs. Walker Bros., Victoria Ironworks, Walsall. The Chief Engineer to the G.W.R. has prepared the plans.

Hendon. — Extensions. — Messrs. Frank Eve and Co., Ltd., engineering contractors, 29, Whitehall, S.W.1, are carrying out extensions to laundry premises at Hendon, N.W.

Hillingdon.—Extensions.—We understand that the Middlesex C.C. are to carry out further extensions at the County Hospital. Mr. W. T. Curtis, F.R.I.B.A., 10, Great George-street, Westminster, S.W.1, is the County Architect.

Jewry-street. — Extensions. — Messrs. Walter Lawrence and Son, Ltd., 31, Sun-street, E.C.2, have secured the contract for extensions to the Sir John Cass Technical Institute. Mr. V. O. Rees, F.R.I.B.A., 30, Upper Mall, Hammersmith, W.6, is the architect.

Richmond. — Reconstruction. — Messrs. Walker (Tooting), Ltd., 39, Defoe-road, Tooting Broadway, S.W.17, have secured the contract for reconstructing 51-53, George-street as a store for Messrs. Lavell and Co., Ltd., under the supervision of Messrs. Fitt and Prior-Hale, Bedford Row House, 58, Theobalds-road, W.C.1. The steelwork is being executed by Messrs. T. C. Jones and Co., Ltd.

Sudbury.—Houses.—Messrs. W. A. Cherry and Co., Ltd., 47, Victoria-street, S.W.1, are buying land in Bridgwater-road, where a number of high-class houses are to be erected.

Twickenham. — Building. — Tenders are being invited for the erection of handicrafts block and alterations to classrooms in boys' and girls' departments at the Orleans School, Napoleon-road, for the E.C. Mr. Gilbert R. King, Borough Engineer and Surveyor, has prepared the plans.

Wood Green.—Shops.—Mr. C. W. Dennis, 143, Cannon-street, E.C.4, and Chase-side, N.14, has prepared plans for new shop premises in Brownlow-road, N.22. Flats are to be erected over the shops. The building contract for this work has been placed.

VISIT TO CONCRETE TILE WORKS

Members of the Institution of Municipal and County Engineers, on Friday, April 7, visited the Leighton Buzzard works of the Marley Tile Co., Ltd., and Whipsnade Zoo. Some fifty members (including the President, Mr. Thomas Somers, M.Inst.C.E., Master of Works and City Engineer, Glasgow; Mr. F. Wilkinson, M.Inst.C.E., Vice-President; and Mr. H. Pickering, the Hon. District Secretary, attended the meeting. After inspection of the works, lunch was taken in the Swan Hotel, Leighton Buzzard, and the President thanked the company for giving them an opportunity of seeing their works. The visit had been most interesting and instructive. After a meeting of the South Midland District, the members visited Whipsnade Zoo.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1933.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Masons.	Bricklayers.	Carpenters Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers.
Aberdare	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Accrington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Aldershot	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Alfreton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Alnwick	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Altrincham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ashford (Kent)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Ashington	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ashton-under-Lyne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Aylsham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Banbury	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Barnsley	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Barnstaple	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Barrow-in-Furness	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Barry	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Basingstoke	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Bath	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Bedford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Berwick	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bexhill	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Birkenhead	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Birmingham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bishop Auckland	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Blackburn	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Blackpool	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bognor Regis	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Bolton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bournemouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Bradford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bradford-on-Avon	1/2	1/2	1/2	1/2	1/2	1/2	1/1	10½
Braintree	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Brentwood	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Bridgwater	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Bridlington	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Brighton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Bristol	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bromsgrove	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bromyard	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Bungay	1/1	1/1	1/1	1/1	1/1	1/1	1/1	9½
Burnley	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Burton-on-Trent	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bury	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Bury St. Edmunds	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Buxton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Cambridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Canterbury	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Cardiff	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Carlisle	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chatham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Chelmsford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Cheltenham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Chester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chesterfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chorley	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cirencester	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Clacton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Colchester	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Coventry	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cranbrook	1/1	1/1	1/1	1/1	1/1	1/1	1/1	9½
Crewe	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cromer	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Darlington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Deal	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Denbigh	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Derby	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Devizes	1/2	1/2	1/2	1/2	1/2	1/2	1/1	10½
Dewsbury	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Doncaster	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dorchester	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Dorking	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Dovercourt	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Driffield	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Droitwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Dudley	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Durham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Eastbourne	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
E.Glam. (Mon.Val.)	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Ely	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Exeter	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Exmouth	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Fakenham	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Felixstowe	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Folkestone	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Frome	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Glossop	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Gloucester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Godalming	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Goole	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Gosport	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Grantham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Gr. Yarmouth	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Grimsby	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Guildford	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Halifax	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Harpenden	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Harrogate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hartlepools	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Harwich	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Hastings	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Hatfield	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Hednesford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hereford	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/2½	11½
Herne Bay	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Hertford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Hitchin	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Hoddesdon	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Holt	1/1	1/1	1/1	1/1	1/1	1/1	1/1	9½
Huddersfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hull	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hunstanton	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Huntington	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Isle of Wight	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Ipswich	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Keighley	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Kettering	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Kidderminster	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
King's Lynn	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Lancaster	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Leamington	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Leeds	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Leicester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Leighton Buzzard	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Lichfield	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lincoln	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Littlehampton	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Liverpool	1/7½	1/7½	1/7½	1/8½	1/7½	1/7½	1/7½	1/2½
Llandudno	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Llanelly	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
London—								
12 m. radius	1/7	1/7	1/7	*	1/7	1/7	1/6	1/2½
12-15 m. radius	1/6½	1/6½	1/6½	*	1/6½	1/6½	1/5½	1/2
Loughborough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Lowestoft	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Luton	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Macclesfield	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Maidstone	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Malvern	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Manchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Mansfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Margate	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Market Harborough	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Matlock	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Melton Constable	1/1	1/1	1/1	1/1	1/1	1/1	1/1	9½
Melton Mowbray	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Merthyr Tydfil	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Middlesbrough	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Newark	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newbury	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Newcastle-on-Tyne	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Newcastle-u.-Lyme	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
New Forest	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Newmarket	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Newport, Mon.	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Northampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Norwich	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Nottingham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Nuneaton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oakham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Oldham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oxford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Paignton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Peterborough	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Plymouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Pontypridd	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Portsmouth	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Preston	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Ramsgate	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Reading	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Redcar	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Redditch	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reigate	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Retford	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Ripon	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Rochdale	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rochester	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Rugby	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Saffron Walden	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
St. Albans	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
St. Helens	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sawbridgeworth	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Saxmundham	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
Scarborough	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Sevenoaks	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Sheffield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Shrewsbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Sittingbourne	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Southampton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southend-on-Sea	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
South Shields	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stevenage	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Stockport	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stockton-on-Tees	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stoke-on Trent	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stourbridge	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Stourport	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stowmarket	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Stratford-on-Avon	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Stroud	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3	11½
Sunderland	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Swaffham	1/1	1/1	1/1	1/1	1/1	1/1	1/1	9½
Swansea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Swindon	1/4	1/4	1/4	1/4	1/4	1/4	1/3	1/-
Tamworth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Taunton	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Thetford	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Torquay	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Totnes	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Trowbridge	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/1½	11
Tunbridge Wells	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Uttoxeter	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wakefield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Walsall	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Walsden	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Warminster	1/2	1/2	1/2	1/2	1/2	1/2	1/1	10½
Warrington	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Warwick	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wells (Norfolk)	1/1	1/1	1/1	1/1	1/1	1/1	1/1	9½
Welwyn Gar. City	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
West Bromwich	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Weston-super-Mare	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Weymouth	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Whitby	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wigan	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Winchester	1/3	1/3	1/3	1/3	1/3	1/3	1/3	11½
Windsor	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Wisbech	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Wolverhampton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Woodbridge	1/2	1/2	1/2	1/2	1/2	1/2	1/2	10½
Worcester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4	1/0½
Worksop	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0
Worthing	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	1/2½	11
Wrexham	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/0½
Wycombe	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/-
Wymondham	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	1/1½	10½
York	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½

* The rate recognised by the National Association of Operative Plasterers as and from 1st February, 1933, is 1/7½ per hour.

For Building Trade wages in Scotland, see page 676.

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issue. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given is the latest date when the tender, or the names of those willing to submit tenders, may be sent in, the name and address at the end is the person from whom or place where quantities, forms of tender, etc., may be obtained.

Following is a list of abbreviations:—Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Town Clerk, T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

APRIL 24.

Barrow-in-Furness.—Houses.—Nine houses in Salthouse-rd., and 100 on Roosegate estate, for Corporation. B.E.

Braintree.—Additions.—Alterations and additions to casual wards at institution, for Essex C.C. J. Stuart, F.R.I.B.A., County Architect, County Hall, Chelmsford. Dep. £1 1s.

Govan.—Housing.—16 working-class dwellings, for U.D.C. Nicholas O'Dwyer, consulting engineer. Dep. £2 2s.

Dundee.—Railings.—Iron railings, grilles, in connection with east and west wings, City-sq., for Corporation. City Quantity Surveyor, 91, Commercial-st.

Glasgow.—Installation.—Electric lighting installation at Balmore-rd. housing scheme extension, for Corporation. D. Stenhouse, T.C.

Granard.—Houses.—24 three-roomed houses at Scrabby-rd., for U.D.C. H. McCabe, T.C. Dep. £2 2s.

Greenanemore. — Cottages. — Four labourers' cottages in former Rathdrum rural district, for Wicklow County Board of Health. P. W. Sheehan, secretary, Board of Health Offices, Rathdrum.

Hemel Hempstead.—Alterations.—To main staircase to Council Chamber at Town Hall, for T.C. A. Murray-Smith, B.E., Market-sq.

Kingswinford.—Cottages.—12 cottages on Leys-rd. site, Brockmoor, for R.D.C. F. Oakes, clerk.

Kirkby-in-Ashfield. — Houses. — Eight four-bedroomed houses and 14 three-bedroomed houses on Nuncargate site, and construction of roads and sewers, for U.D.C. L. Dodsley, architect, Public Offices. Dep. £2 2s.

Lanchester.—Alterations.—Additions and alterations to gardener's cottage, for Lanchester Joint Hospital Board. J. J. S. Barker, clerk.

London.—Heating.—Installation of low-pressure hot water heating system at (1) Romford post office and sorting office, (2) Wimbledon post office and sorting office, for H.M.O.W. Room 65D, Third Floor, S.W.1. Dep. £1 each.

London.—Painting.—Internal and external cleansing, painting and repairs at (1) Park Hospital, Hither Green, Lewisham, S.E.13, and (2) Brook Hospital, Shooter's Hill, Woolwich, S.E.8, for L.C.C. Chief Engineer, (B) County Hall, Westminster Bridge, S.E.1. Dep. £1.

Nottingham.—Alterations.—To Huntingdon House, Huntingdon-st., for T.C. T. Wallis Gordon, City E. and S. Dep. £1.

Peterborough.—Shop Front.—Modern shop front and also of various shop fittings at premises in Bridge-st. to be used as showroom for the Electricity Dept., for T.C. H. A. Nevill, Electricity Dept. Dep. £1 1s.

Rosie.—Houses.—52 houses at Rosie, Wemyss, for Fife C.C. G. B. Deas, architect, Central-chams., Kirkcaldy.

St. Helens.—Houses.—32 non-parlour of various types on Hardshaw Brook site "Z" at Jackson-st., for Corporation. A. P. Statham, B.E. Dep. £2.

Smethwick.—Houses.—216 on Warley estate, for C.B. R. Fletcher, B.E. and S. Dep. £2 2s.

Stratford-on-Avon.—Houses.—12, for R.D.C. G. E. Boshier, architect, High-st. Dep. £2 2s.

Taunton.—Conveniences.—Public conveniences at Castle-walk, for T.C. Samson & Colthurst, architects, 1, Hammet-st.

Wicklow.—Walls.—Walls and piers at new burial ground at Dunlavin, for County Wicklow Board of Health. P. J. Foley, E., 102-103, Grafton-st., Dublin.

APRIL 25

Ashstead (Surrey). — Extension to Telephone Exchange.—For the Commissioners, Room 65D, Third Floor, H.M.O.W., London, S.W.1. Dep. £1.

Bristol.—Additions.—Also alterations to up platform No. 9 (present platform No. 4) at Temple Meads Station, for G.W.R. Chief E., Paddington Station. Dep. £2 2s.

Cobh.—Houses.—Nine at Mall Cobh, for U.D.C. A. Powell, T.C.

Cosham.—Convenience.—For public convenience at the junction of London-rd. and Northern-rd., Cosham, for Portsmouth T.C. City Engineer, Guildhall, Portsmouth. Dep. £1 1s.

Cosham.—Houses.—For 260 houses (second contract) on the Southampton-rd. site, Cosham, for Portsmouth T.C. R. J. Jenkins, City Engineer, Guildhall, Portsmouth. Dep. £5 5s.

Dublin.—Houses.—140 three-roomed houses and 4 four-roomed houses on Friends' Fields housing area, for Corporation. Housing Architect. Dep. £5 5s.

Dundalk.—Houses.—46 houses, for U.D.C. Joseph F. Doris, Town Surveyor. Dep. £5.

Horsham.—Decorations.—Interior decorations to Council offices, Billet-lane, for U.D.C. F. Alderson, S.

Kesh.—Repairs.—To Erne Villa, for Miss M. Walmsley, Corlave, Drumskinney. J. Donnelly, architect, Enniskillen. Dep. £1 1s.

Lancaster.—Painting.—External painting of (1) Ashton wing, (2) Brunton House, at Royal Albert Institution, Lancaster. S. Keir, secretary.

Newport (Mon.).—Houses.—Pair of parlour type houses at Allt-yr-yn Hospital, for C.B. Borough Architect. Dep. £1 1s.

North Skelton.—Floor.—Supplying and laying down of dance floor at Institute. E. W. Templeman, secretary.

Nottingham.—Sub-station.—In Nuthall-rd., for T.C. T. Wallis Gordon, City E. and S. Dep. £1.

Nottingham.—Painting.—External and internal painting at University College-buildings, Shakespeare-st., for Council of University College. T. Wallis Gordon, City E. and S. Dep. £2.

Penzance.—Wall.—Wall and footpath on eastern side of Penalverne-drive, for T.C. F. Latham, B.S.

Plymouth.—Alterations.—To sanitary spur, male side "C" ward, ground floor, Blackadon Mental Hospital, and external painting of nurses' home and south side of main building, Blackadon Mental Hospital, for T.C. J. Wibberley, City Engineer and Architect, Sun Buildings. Dep. £1 1s.

St. Just.—Conveniences.—Public conveniences at St. Just, for U.D.C. W. J. Lawry, S.

Sennybridge.—Extension.—Extensions to Mart, for Sennybridge and District Voluntary Stock Market. W. L. Pritchard, S., Brecon.

Sheffield.—Repairs.—At 9, Burngreave-rd., for West Riding C.C. West Riding Architect, County Hall, Wakefield.

Templemore. — School. — Technical school at Templemore, for County Tipperary (N.R.) Vocational Educational Committee. V. Kelly, architect, 87, Merrion-sq., South, Dublin. Dep. £3 3s.

Tenderden.—Conveniences.—For T.C. B.S. Dep. £1 1s.

APRIL 26.

Barking.—Clinic.—Central clinic on Vicarage Field, for T.C. C. J. Dawson, F.R.I.B.A., Clock House-chambers, Barking. Dep. £5.

Birmingham.—Building.—Alterations, etc., to day rooms and dormitories of male 9 ward, ground floor, at Winson Green division, Lodge-rd., for T.C. D. E. Turner, L.R.I.B.A., etc., the Committee's Chief Officer of Works, Hollymoor Mental Hospital, Northfield. Dep. £1 1s.

Bury.—Shops.—Block of five and one block of four shops of sectional wood construction on Market ground, for Corporation. B.E., Bank-st. Dep. 10s.

Chester. — Offices. — New offices for County Licensing Department at Chester Castle, for Cheshire C.C. F. A. Browne, County Architect, The Castle, Chester. Dep. £1 1s.

Ilford.—County Court.—For the Commissioners, Room 65D, Third Floor, H.M.O.W., London, S.W.1 Dep. £1.

London (Clapham).—Flats.—For the erection of 21 flats in North-st., Clapham, S.W.4, for Wandsworth B.C. G. Leonard Elkington, Norfolk House, 7, Laurence Pountney-hi'', E.C.4. Dep. £1 1s.

London (Wandsworth).—Flats.—For 52 flats and 6 shops in Frogmore, Wandsworth, for B.C. G Leonard Elkington, Norfolk House, 7, Laurence Pountney-hill, E.C.4. Dep. £1 1s.

London.—Additions.—At 80, Shooter's Hill-rd., Blackheath, for Greenwich B.C. B.E. Dep. £2 2s.

Merton.—Railings.—Wrought-iron railings and gates at proposed recreation ground, Mostyn-rd., Merton Park, for Merton and Morden U.D.C. G. Jerram, S. Dep. £1.

Pontypool.—Painting.—Also renovating certain stonework at Pontypool and District Hospital. N. A. Ball, secretary.

Portrush.—Public Shelter.—Public shelter and lavatories adjoining Salmon Fishery-yd.; and erection of galvanised tubular railing at Salmon-green, for U.D.C. Town Surveyor.

Rochdale.—Painting.—External of 228 houses on Spotland estate, 148 houses on Kilworth-st. estate, and 22 houses on Deeplish estate, for Corporation B.S.

Sunderland.—Heating.—Installation of new centralised heating and domestic hot-water supply at Borough Sanatorium, Hylton-rd., for T.C. B.E. Dep. £2 2s.

APRIL 27.

Dublin. — Exchange. — Telephone exchange at Terenure, for Commissioners of Public Works. T. Cassedy, secretary, Office of Public Works, Dublin. Dep. £1.

Fishguard.—Roof.—Iron truss roof and other work in connection with the re-roofing of Centre Market, for Fishguard Market House Co. A. J. Hodges, Clerk to Co., 16, Main-st. Dep. £1.

Glasgow.—Houses.—28 at Carntyne, for T.C. D. Stenhouse, T.C.

Godstone.—Repairs.—Decorative repairs to diphtheria block, Isolation Hospital, Bletchingley, for R.D.C. S. Easter, S., Lloyds Bank-chambers, Station-rd. West, Oxted. Dep. £1 1s.

Leamington.—Alterations to Post Office.—For the Commissioners. Room 65D, Third Floor, H.M.O.W., London, S.W.1. Dep. £1.

APRIL 28.

Bakewell.—Houses.—Three-bedroom type non-parlour houses, in pairs, in following parishes: Curbar, 8 houses; Eyam, 8; Hathersage, 18; and Youlgreave, 8, for R.D.C. G. V. Sayner, architect, 5, The Quadrant, Buxton.

Belfast.—Building.—Building of Our Lady's Hospital, Beechmount, Falls-rd., for Mater Infirmorum Hospital. Frank McArdle, architect and civil engineer, 29, Rosemary-st. Dep. £5 5s.

Blackpool.—Crematorium.—Chapel lodge, etc., in connection with crematorium at Carleton, for Corporation. F. Wood, B.E. Dep. £2.

Bury St. Edmund's.—School.—Girls' school for 480 children, for E.C. J. H. Wakefield, secretary to E.C.

Bwlchygroes.—Manse.—New manse at Bwlchygroes, Boncath, Pem. G. L. Thomas, Garth, Glogue, S.O., Pem.

Chipping Sodbury.—Repairs.—Repairs and renovations at Yate sewage disposal works, for R.D.C. Maynard Fromd & Stevens, chartered surveyors, St. Stephen's-chambs., Baldwin-st., Bristol. Dep. £1.

Dinnington.—Repairs.—At Dispensary, 114, Lordon's Hill, for West Riding C.C. West Riding Architect, County Hall, Wakefield.

Shap.—Houses.—10 non-parlour type on site at Moss-grove, for U.D.C. H. Irving Graham, architect, 15, Bank-st., Carlisle. Dep. £2 2s.

Sunbury-on-Thames. — Premises. — Premises for Sunbury Ex-Service Men's Association. B. Royce, architect, 22, Mackenzie-st., Slough. Dep. £1 1s.

APRIL 29.

Hamilton.—Wiring, etc.—Wiring and fittings required in connection with lighting and heating of Mausoleum Cottage, Palace Grounds, for T.C. T.C.

Irvinestown.—Alterations.—To houses at Sunbeam-ter., for T. Chittick. J. Donnelly, architect, Enniskillen. Dep. £1 1s.

Smallburgh.—Painting.—External of houses, for R.D.C. A. Peploe, clerk, 25, Grammar School-rd., North Walsham.

Wells.—Bath.—Open-air swimming-bath of reinforced cement concrete and other work in connection therewith, for T.C. E. P. Foster, T.C., 1, Cathedral-green.

York.—Houses.—130 non-parlour type on Huntington-rd. estate, for T.C. F. W. Spurr, City E. Dep. £2 2s.

MAY 1.

Cambridge.—Building.—Maintenance fund office at Addenbrooke's Hospital, for Addenbrooke's Hospital, Cambridge. Pick, Everard, Keay & Gimson, architects, 6, Millstone-lane, Leicester. Dep. £2 2s.

Cambridge.—Kitchen.—Additions to the kitchen at Addenbrooke's Hospital, Cambridge, for General Committee of Addenbrooke's Hospital. Pick, Everard, Keay & Gimson, architects, 6, Millstone-lane, Leicester. Dep. £2 2s.

Halifax.—Building.—Out-station house, Mount Tabor, for C.B. D. T. Lloyd Jones, B.E., Crossley-st. Dep. £1 1s.

Hinckley.—Houses.—Eight houses in Hinckley-rd., Stoney Stanton, for R.D.C. E. H. Crump, architect, Barclays Bank-chams.

Twickenham.—Building.—Handicrafts block, etc., Orleans school, for E.C. Gilbert R. King, B.E. and S. Dep. £2 2s.

Ware.—Painting.—Also decorating work to Council houses, for U.D.C. S., Priory.

Willesden.—Decorative.—For decorative and tarpaving repairing works at various schools during the school summer holidays, for E.C. F. Wilkinson, architect to E.C.

Woodford.—Decorations.—To houses on Glengall Farm housing estate, for U.D.C. A. D. Ward, E. and S.

MAY 2.

Brentwood.—Convenience.—For U.D.C. A. J. Meeson, S. Dep. £2.

Godstone.—Repairs.—Decorative repairs to 78 Council houses, for R.D.C. S. Easter, S., Lloyds Bank-chams., Station-rd. West, Oxted. Dep. £1 1s.

Liverpool.—Heating.—Installation of heating, hot water and fire services at Liverpool Hatton Garden Parcel Office, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

Swindon.—Building.—Sorting office, for H.M.O.W. Room 65D, Third Floor, H.M. Office of Works, London, S.W.1. Dep. £1.

MAY 3.

Chatham.—Floor.—Reflooring assembly hall at Town Hall, for T.C. R. L. Honey, B.E. and S.

MAY 4.

Belfast.—Heating.—Hot-water heating system at Central Telephone Exchange, for Government of Northern Ireland. Secretary, Ministry of Finance, May-st.

Knaresborough.—Housing.—24 houses and construction of roads on Frogmore estate, for U.D.C. S.

Penzance.—Houses.—80 houses on Penalverne housing site and construction of roads, sewers, water supply, mains, etc., appertaining thereto, for T.C. E. W. J. Nicholson, T.C. Dep. £5.

Sale.—Shops.—Six lock-up shops, Cross-st., Sale, including demolition of old property. S. P. Fairhurst, architect, 220, Huddersfield-rd., Mirfield.

MAY 5.

Gillingham.—School.—Infants' school in Skinner-st. to accommodate about 300 children, for T.C. J. L. Redfern, B.E. and S. Dep. £3 3s.

***London, N.**—External Decorations.—For Hornsey T.C. T.C., Town Hall, Highgate, N.6.

MAY 8.

Heston and Isleworth.—School.—New senior elementary school for 480 places at Hounslow, for E.C. J. G. Carey, architect for E.C. Dep. £2 2s.

MAY 9.

Babington.—Housing.—16 bungalows and 10 houses at Bromborough, for U.D.C. E. and S. Dep £2 2s.

MAY 13.

Carlisle.—Alterations.—Alterations and additional story to present administration block, for Cor-

mittee of Management of Cumberland Infirmary. S. W. B. Jack, architect, Lloyds Bank-chams. Dep. £1 1s.

Dolgelley.—Offices.—To County Offices, Dolgelley, for Merioneth C.C. N. Jones, County Architect, County Offices.

Macclesfield.—Painting.—Certain parts of Infirmary and outside pointing and repair to main steps at Macclesfield General Infirmary, for Governors. P. Wright, architect, King Edward-st.

Manea.—Buildings.—Farm buildings on Boots Farm, near Manea, Cambs. J. Farrow, Bowthorpe Hall, Wisbech.

Mullingar.—Buildings.—Additional buildings at Mullingar, for Mullingar Mental Hospital Committee of Management. J. R. B. Barrett, architect, 61, South Mall, Cork. Dep. £10 10s.

Stevenage.—Bath.—Swimming bath, for U.D.C. R. A. Gandy, S. Dep. £2 2s.

NO DATE.

Belfast.—Premises.—Rebuilding 64, North Queen-st., Belfast. T. M'Clean, architect, Downpatrick.

Driffield.—Pavilion.—Tea pavilion at recreation ground, for Town Cricket Club. L. Stockill, opposite Post Office.

Halifax.—Houses.—4 houses, Shelf Hall-lane, Shelf; 2 houses, Woodside-rd., Low Moor, and 4 houses, Wakefield-rd., Lightcliffe. G. Reg. Oddy, chartered architect, Ward's End-chambs.

Newcastle (Staffs).—Painting.—Gasholders, for Gas Dept. Manager, Gas Works.

Sale.—Shops.—6 lock-up shops, Cross-st., including demolition of old property. S. P. Fairhurst, architect, 220, Huddersfield-rd., Mirfield.

Somerset.—Building.—New county school at Weston-super-Mare, and new senior council school at Timsbury, for C.C. A. J. Toomer, County Architect, Park-st., Taunton. Dep. £8 8s.

MATERIALS, etc.

APRIL 24.

Adwick-le-Street.—Tarred Slag, etc.—For U.D.C. G. Gledhill, S.

Beckenham.—Tarmacadam.—500 tons, for U.D.C. H. Storr Best, S., Town Hall. Dep. £2.

Chelmsford.—Broken Granite.—For T.C. V. J. Willis, B.E. and S.

APRIL 25.

Cranbrook.—Ragstone.—For R.D.C. E. Clarke, clerk.

APRIL 29.

Romford.—Tar, etc.—For U.D.C. F. G. Beaumont, E. and S.

MAY 1.

Radcliffe.—Highway Materials.—For U.D.C. E. and S.

MAY 4.

Northfleet.—Highway Materials.—For U.D.C. S.

MAY 10.

Barnes.—Shingle, etc.—For T.C. F. P. Kindell, B.E. and S.

ENGINEERING, IRON AND STEEL.

APRIL 24.

Bristol.—Steelwork.—For widening of Ashton-rd. bridge over Great Western Railway, for T.C. H. M. Webb, City E. and S. 63, Queen-sq. Dep. £2 2s.

Culmstock.—Septic Tank.—At Holcombe Rogus, for R.D.C. H. W. James, sanitary inspector, Hemyock.

Royton.—Sewage Works.—Additional humus tank capacity, with other alterations and additions at sewage disposal works, Streetbridge, Royton, for U.D.C. L. Cookson, S. Dep. £2 2s.

APRIL 25.

Foynes.—Jetty.—Removal of existing timber jetty, construction of new wharf and approaches thereto, etc., for Harbour Trustees. Delap & Waller, chartered civil engineers, 16, Molesworth-st., Dublin. Dep. £10.

London.—Improvements.—River improvement works at Stratford, for Joint Committee of Lee Conservancy Board and West Ham Corporation. Joint Engineers, 21, Surrey-st., Strand, London, W.C.2. Dep. £10.

London.—Girders.—259 tons of steel girders, for G.W.R. E., Paddington Station, W.2. Dep. £2 2s.

Manchester.—Rebuilding.—Collyhurst-rd. bridge over the Moston brook, Collyhurst, for Corporation. City E. Dep. £3 3s.

Newport (Mon.).—Foundations.—Construction of foundations for viaduct carrying new road from Emlyn-st. to High-st., over G.W.R. lines, and for laying of an 18-in. sewer on same site, for C.B. B.E. Dep. £10.

APRIL 26.

Mablethorpe and Sutton.—Pipes.—Laying of approximately 850 connections of lead service pipes, with necessary stop cocks, from their new water mains to property boundaries, for U.D.C. Silcock & Simpson, engineers, 25, Victoria-st., Westminster, S.W.1. Dep. £3.

NO DATE.

Langport.—Water Supply.—1,270 yds. of 3-in. asbestos pipes, with fittings, including meter, special electrically controlled valve and brick chambers, for R.D.C. Capt. W. H. Bateman, E., Batheaston, Bath. Dep. £2 2s.

ROAD, SEWERAGE AND WATER WORKS.

APRIL 24.

Beckenham.—Tarspraying.—For tarspraying of highways, for U.D.C. H. Storr Best, surveyor, Town Hall, Beckenham. Dep. £2.

Beckenham.—Making-up.—For making-up of parts of Court Downs-rd., Witham-rd., Warwick-rd., and whole of Ashleigh-rd., for U.D.C. H. Storr Best, surveyor, Town Hall, Beckenham. Dep. £2.

Beddington and Wallington.—Making-up.—Curran-av. and Elm Grove-parade, for U.D.C. S. F. R. Carter, S., 42, Woodcote-rd., Wallington. Dep. £1 1s. each.

Bromley.—Improvements.—In Carisbrooke-rd., for T.C. B.E. Dep. £1.

Howden.—Asphalting.—At Howden Clough Council school, for West Riding C.C. L. J. Blackburn, divisional clerk, 8, St. John's North, Wakefield

Mirfield.—Road.—Formation of a new access road at Mirfield Grammar School, for West Riding C.C. Education Officer, County Hall, Wakefield.

Morley.—Making-up.—Dartmouth-av., Cardigan-av., Ashfield-rd., Pawson-st., Worrall-st. and Queens-rd., for T.C. F. Turner, B.E. and S. Dep. £2 2s

APRIL 25.

Louth.—Sewage Disposal Works.—For the construction of reinforced concrete biological filters, and humus tanks, on piled foundations, sludge-pumping station, conversion of existing filter for use as storm-water tank, alterations to existing tanks, removing medium from existing filters, washing and replacing in new filters, pipe lines, chambers, roads and other incidental works, on the site of the existing sewage disposal works at Keddington Corner, for T.C. Dodd & Watson, MM.Inst.C.E., 3, Central Buildings, Westminster, S.W.1. Dep. £2 2s.

Maldon.—Roads.—Surface dressing of roads, for T.C. B.E

Runcorn.—Water Supply.—10,200 yds. of 3-in., 1,915 yds. of 4-in., and 1,018 yds. of 5-in. spun-iron pipe water mains, together with necessary hydrants, sluice valves, air valves, meters, pressure reducing valves, and all appurtenant works and fittings, in and alongside public highways of the parish of Kingsley, for R.D.C. G. F. Ashton, clerk. Dep. £3 3s.

APRIL 26.

Uxbridge.—Making-up.—Of Park-way, Hillingdon, for U.D.C. E. E. T. Bolton, E. and S., 263, High-st. Dep. £2 2s.

APRIL 27.

London.—Asphalt.—Supply and laying of asphalt macadam, for Lambeth B.C. Osmond Cattlin, B.E.

APRIL 28.

Esher.—Making-up.—Of Dalmore-av., Claygate, for U.D.C. L. V. S. Watson, Clerk to Council. Dep. £3 3s.

APRIL 29.

Carshalton.—Making-up.—Of Erskine-rd. (Byron Orchard Estate), Florian-av. and Orchard-way, for U.D.C. R. S. Davey, E. and S., The Grove. Dep. £2.

Gellygaer.—Tarspraying.—Tarspraying of roads, for U.D.C. F. Read, E. and S.

MAY 1.

London.—Road.—New road and surface water drainage at Council's cemetery, East Finchley, N.2, for Islington B.C. B.E.

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CURRENT & PROPOSED BUILDING WORK*

Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B. of E. for Board of Education; M.W.B. for Metropolitan Water Board, Borough Surveyor, B.S.; Borough Engineer, B.E.; District Surveyor, D.S.; Clerk, C.; Town Clerk; T.C.; County Engineer, C.E.; County Surveyor, C.S.; Surveyor, S.; Engineer, E.

Alcester.—A. P. Hing, F.R.I.B.A., architect, 121, Colmore-row, Birmingham, prepared plans for rebuilding "Rose and Crown" Hotel, Portway.

Alfreton.—Methodist Church Circuit proposing Church for Bentinck Methodist Congregation.

Ampleforth.—Sports pavilion at College, for College Authorities. Plans by Sir Giles Scott. Tenders being invited.

Armagh.—It is proposed to erect county hospital.

Ayr.—On coast Ayr-Girvan-rd., an hotel at Cumming-pk. will be erected. Jas. Carrick, architect, Wellington House, Ayr.

Ballymena.—U.D.C. approved draft plans for fire brigade station, four firemen's houses and child welfare clinic in Castle-st.

Belfast.—Parks and Playgrounds Committee of Corporation propose to construct recreation grounds at Botanic Gardens-pk. at £20,600.—Corporation Tuberculosis Committee recommended erection of additional hospital unit at municipal sanatorium and conversion of present nurses' home into medical officers' staff quarters.—Estates Committee considering 300 houses in Donegall-rd.-Falls-rd. area.

Belfast.—Plans passed by City S. include school and caretaker's residence at Avoniel-rd., for E.C.; R. S. Wilshere, F.R.I.B.A., 8 houses at Shandon-pk., for J. J. Bell; rebuilding premises in Talbot-st., for W. Campbell & Co., A. F. Lucy; additions to college in Fortwilliam-pk., for Dominican Convent, J. V. Brennan; reconstruction of premises for Millfield Foundry, Ltd., Robt. Davison; alterations to premises in Howard-st. for British and Foreign Bible Society, Munce & Kennedy; church in Malone-rd. for Committee of M'Cracken Memorial Church, Hobart & Heron.

Birkenhead.—Messrs. Threlfall's Brewery, Ltd., 21, Trueman-st., Liverpool, propose rebuilding "Birkenhead Arms" public-house, at corner of Chester-st. and Grange-st. Plans by G. W. Fraser, M.C., F.R.I.B.A., architect, Wellington-bldgs., The Strand, Liverpool. Contracts not let.—E.C. approved plans by Managers of St. Hugh's, for extensions to Central School.—E.C. approved plans by Managers of Our Lady's for infants' school to accommodate 350 infants, modification of boys' school for junior mixed department and modification of infants' buildings to provide accommodation for older girls.

Birmingham.—Baptist church in Stratford-rd., Hall Green, for Rev. Eric Knight. Cost £6,000.

Birmingham.—A. Rowse, 117, Colmore-row, quantity surveyor for proposed school at Glebe estate, Stechford, for E.C. H. T. Buckland, architect, F.R.I.B.A., Norwich Union-chambers, Congreve-st.—S. N. Cooke, F.R.I.B.A., Sun-buildings, Bennett's Hill, architect for extensions to Birmingham and Midland Skin Hospital, John Bright-st. General Secretary, H. Sumner. Estimated cost, £30,000.—A. D. Wimbush & Son, Ltd., Little Green-lane, Small Heath, propose offices and extensions to buildings. Estimated cost, £8,000. A. Peter Hing, architect, F.R.I.B.A., 121, Colmore-row. Contracts not let.—S. Scott, A.R.I.B.A., 115, Colmore-row, is preparing plans for café restaurant at 79, Edmund-st., for S. H. Shakespeare & Co., 174, Edmund-st. Contracts not let

Blyth.—It is proposed to build Sunday school in connection with Parish Church. Rev. A. Cusen, vicar.

Blackpool.—C.B. resolved that Borough Electrical Engineer be authorised to purchase sites for transformer houses at Little Marton, and in St. Martin's-rd.—Parks Superintendent to be instructed to prepare plans and estimates for shelter for use of bowlers at Stanley Park bowling greens.—Parks Superintendent also to erect brick wall along westerly boundary of the cricket ground.—Minister sanctioned borrowing by Corporation of £2,682 for additional bridge over Stanley Park Lake.—Plans passed: 116 houses, Fir-grove, etc., J. Gregson & Son; 12 houses, Priory-gate, P. W. Emery & Son; 8 houses, Selby-av., C. Harding & Sons; 10 houses, Stony Hill-av., G. Woodhead; 7 houses, Bloomfield-rd., W. Hornby; 10 houses, Park-rd., etc., F. Schofield; 31 houses, Links-rd., R. Fielding & Son; 8 houses, Ascot-rd., N. V. Anderson; pavilion, Sedbergh-av., Marton Working Men's Club & Institute.

Bootle.—Bent's Brewery Co., Ltd., 30, Johnson-st., Liverpool, propose licensed premises junction of Aintree-rd. and Fernhill-rd. at £14,000. Harold E. Davies & Son, F.R.I.B.A., architects, Wellington-bldgs., The Strand, Liverpool.

Bradford.—J. Young & Co., Lloyds Bank-bldgs., architects for rebuilding "Oddfellows Arms" Hotel, Eccleshill, for Leeds & Wakefield Breweries, Ltd., Melbourne Brewery, Leeds.

*See also List of Contracts, Competitions, etc.

***** In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.**

Cavan.—Permission given C.C. to raise loan of £50,000 for 100 houses.

Chester.—E.C. propose elementary school for 450 children on Buddicom Park estate. City S., C. Greenwood.

Clitheroe.—T.C. propose electricity sub-station at Gisburn. A. Todd, E.

Darlington.—Committee of Memorial Hospital propose out-patients' department at £15,000. No contracts placed.—T.C. considering proposal to erect 50 houses, Boyne-st. area, in Carr Rise. E. Minors, B.S.

Darlington.—E.C. propose to provide elementary school for about 480 children at Gladstone-st. E. Minors, B.S.

Doncaster.—Extensions to Central Library in St. George's-gate to be carried out. H. A. Gold is architect to Carnegie United Kingdom Trust.—Site been acquired upon Wheatley estate for new Church of England to be erected.—B.S. to prepare plans for bus garage at Intake. Tenders to be invited.—Children's Home at Stanley House to be enlarged at £950.

Dudley.—Messrs. Lloyd's Bank, Ltd., proposing alterations to premises in Wolverhampton-rd. Plans by J. L. Harpur, Building Inspector, Lloyd's Bank. Ltd., District Offices, Birmingham. Contracts not let.

Easington.—J. Hamilton, Hill Crest, Castle Eden, is architect for scheme of W. Grant, builder, Easington Colliery, to erect 31 houses.

Edinburgh.—Corporation have plans on hand for primary school at Holy Cross Academy. E. J. McRae, City Architect.

Esh Winning.—Durham County E.C. proposes alterations to Council school at £1,725. F. Willey, architect, 34, Old Elvet, Durham.

Gateshead-on-Tyne.—Over 100 houses proposed to be built by F. W. Hindmarsh, Lyndhurst, Fawdon-lane, Gosforth, Newcastle, in Saltwell-rd. area. Hetherington & Wilson, architects, County Chambers, Westgate-rd., Newcastle.

Glasgow.—New offices in Bath-st., for Refuge Assurance Co., Ltd. Birkett & Son, architects, 16, John Dallas-st., Manchester.

Grimsby.—James Duke, Ltd., Bethlehem-st., propose stone building adjoining shop and showrooms. Architects, Goodhand & White, Osborne-bldgs., Osborne-st.—F. A. Would, builder, 56, Signhills-av., Cleethorpes, to build further 8 houses in Grove-cres.

Gosforth.—A. Gunning & Co., Hannington-st., Newcastle, prepared lay-out scheme for a site bounded on west by Haddricks Mill-rd. and Dencter., on north. Number of houses proposed.—W. E. Hall & Son (Low Fell), Ltd., builders, 32, Mosley-st., Newcastle, to develop site of 27 acres on east side of Great North-rd. near Northumberland County Cricket Ground.—Hetherington & Wilson, 52, Westgate-rd., Newcastle, prepared lay-out scheme for 100 houses and 12 shops on west side of Great North-rd., between Newcastle Golf Club and West Gosforth railway station. Cussins (Contractors), Ltd., builders, Wellburn Park estate, Jesmond, Newcastle-on-Tyne, are builders.

Hamsterley Colliery.—Sports pavilion to cost £500 to be built at colliery. Contract not let. Plans by E. Graham, Coal Trade Offices, Neville Hall, Newcastle-on-Tyne.

Hebburn-on-Tyne.—M.H. approved generally the U.D.C.'s scheme for additional accommodation at Council offices in Argyle-st. Tenders to be invited. Plans by T. A. Page & Sons, 67, King-st., South Shields.—Plans been prepared by C. McGhie, Collingwood-bldgs., Newcastle-on-Tyne, for lay-out of building sites for 26 semi-detached villas near Victoria-rd. West, and Tharsis-rd.

Hull.—Hull Co-operative Society, Ltd., 26, Jarratt-st., to acquire site on Endyke-lane estate for new branch premises.

Lanarkshire.—C.C. agreed to proceed with 40 additional houses for Blantyre area.

Laurencekirk.—T.C. approved plans of proposed new school, and Kincardineshire E.C. been granted necessary warrant to proceed with work.

Leeds.—Cohen & Wilks, Ltd., New York-rd., to carry out additions to factory.—Corporation Gas Dept. to erect governor house at Stainburn-sq., Chapel-Allerton, at £1,500.

Leeds.—Branch premises in Scott Hall-rd., for Leeds Industrial Society, Ltd., Albion-st., Leeds.

Leeds.—Leeds Industrial Co-operative Society, Ltd., Albion-st., to acquire site at Scott Hall-rd. and Potter Newton-lane for branch stores.—Blenheim Baptist Church propose Memorial Institute in Camp-rd. H. Chaplin, secretary. An architect not yet been appointed.

Liverpool.—T.C. recommend plans prepared by Land Steward and Surveyor for senior school on Dovecot (Page Moss-lane) site, Knotty Ash, be adopted and forwarded to B. of E. for approval. —Application to be made to M.H. for sanction to borrow the following: £880 in respect of alterations at Holly Lodge high school and the provision of necessary fittings; £507 in respect of purchase of 58, Lynwood-rd. as dwelling-house for caretaker of Warbreck "Rice-lane" Council school; £500 in respect of treatment of fallow land forming part of site of Dovecot (Ackers Hall Farm estate) Council school; and £450 in respect of treatment of fallow land forming part of site of the Florence Melly (Grandison-rd.) Council school.

Liverpool.—Plans passed by Corporation: 28 houses, proposed road, off Edge-lane, Wm. Peccorini, for J. T. Davies; office block and Maintenance Depot, Gravehurst-av., Corporation; 12 houses, Craigside-av., W. T. Clarke, for T. Percy; 18 houses, Tullimore-rd., Richard Owens & Son, for W. & T. Armour Williams; 18 houses, Tullimore-rd., R. Owens & Son, for G. F. Williamson; 10 houses, proposed road, off Binns-rd., and 2 houses, Binns-rd., F. O. Lawrence, for Mrs. G. F. Cooke; 18 houses, Mossley Hill-rd., R. Owens & Son, for Williams & Jones; extension to works, White-st., Richard Owens & Son, for James Austen, Ltd.; 14 houses, Vale-rd., and 12 houses, Menlove-av., Brown & Saunders; 13 houses, Elmswood-rd., 26 houses, Sudley-rd., 16 houses, proposed road, off Sudley-rd., 6 houses, Ashfield-rd., and 26 houses, proposed road, off Ashfield-rd., C. F. Elias & Lancaster, for J. R. Ruddock; 13 houses, Bonsall-rd., Tysone (Contractors), Ltd.; 11 houses, Cherry-lane, and 11 houses, proposed road, off Cherry-lane, Tippin Bros.; 9 houses, Corbridge-rd., and 2 houses, Hilltop-rd., Griffith & Lloyd; alteration to licensed premises, 139-141, Great Homer-st., Medcalf & Medcalf, for Threlfall's Brewery Co., Ltd.; extension to school, Quarry Bank Harthill-rd., for Corporation; extension for garage and offices, Marybone, Leonard Barnish, for Geo. Brown; extension to varnish depot, Mill-lane, Old Swan, J. T. Golder, for Goodlass Wall & Co., Ltd.; 10 houses, Grant-rd., Jas. Bland & Son, for B. Maguire; 32 houses, Wilbourne-rd., A. E. Shennan, for Mrs. Ebbs; 8 houses, Tynwald Hill, and 24 houses, proposed road, off Tynwald Hill, A. J. Wannop, for J. H. Riding; new club premises, Moss Pits-lane, Fazackerley Williams & Kelly, for Rev. Fr. J. Duffey; 7 houses, Selwyn-st., Walter Spencer.

London (Lewisham).—B.C. approved: A. J. Glock, Ltd., houses at Farm estate, Southend, Catford; Walker, Clinging & Co., 3 lock-up shops at rear of 25, Rushey Green, Catford, to abut upon Davenport-rd.; Wates (Streatham), Ltd., houses on Brockley Hall estate, so far as relates to 4 corner houses, Sevenoaks-rd.; E. C. Christmas, proposed lay-out of site out of Dunoon-rd., Forest Hill; E. C. Christmas, buildings to abut upon way to lead from High-st., Sydenham, to Sydenham Park; R. B. Rowell, De Frene-rd., 9 houses; W. H. Gaze & Sons, Ltd., additions to Lewisham Hospital, High-st., Lewisham; Chart, Son & Reading, 46 houses, Baring-rd.; J. W. Faulkner & Sons, Ltd., additions to factory on east side of Manor-lane.

Macclesfield.—Ind Coope & Co., Ltd., brewers, Burton-on-Trent, propose reconstruction of "Bull's Head" public-house, Broken Cross. Plans by E. Forshaw & Sons, F.R.I.B.A., architects, Trinity-chmbrs., Hanley, Stoke-on-Trent. Contracts not placed.

Manchester.—Plans approved by T.C. include: Additions to Church and Sunday school, Platt-lane and Hart-rd., Withington, for Rev. H. Cooper, Central Hall, Oldham-st.—Public Health Committee propose mortuary at Withington Hospital, cost £4,500.—Plans approved by T.C.: 16 houses, Broadway, Moston, North Manchester Builders (Newton Heath), Ltd., 2, Monsall-rd.; 14 houses, Smedley-rd. and Skedley-av., Cheetham, M. Duckworth, 16, Smedley-rd., Cheetham; 3 shops and houses, Park-rd. and Greenbank-av., 6 houses, Park-rd. and Green Bank-av., Northen Etchells, W. Savate, Box Tree Cottage, Longley-lane, Northenden; electricity sub-station to Reference Library, Mount-st., Peter-st., St. Peter's-sq. and Cooper-st., Corporation; 10 houses, Hodge-st. and Church-rd., Blackley, J. H. Toft, 8, Belliot-st., Cheetham; additions to premises and reconstruction of portion of premises after fire, 334/344, Stockport-rd. and Etruria-st., Chorlton-upon-Medlock, Ridings Reliance, Ltd.

Market Harborough.—U.D.C. propose maternity ward at the Cottage Hospital.

Middlesbrough.—Additions are proposed to business premises in Linthorpe-rd., to plans by Kitching & Co., 21, Albert-rd. No contracts let.—Thompson & Halliman, builders, Emmerson-st., to build 9 houses.

Morley.—Corporation acquired site in Victoria-rd. for extensions to Council schools.

Newcastle-on-Tyne.—G. C. Hadden, Huddlestone-st., builder, proposes 46 houses, Coast-rd.—Alterations to take place to Trinity Church, Northumberland-rd., and plans for scheme prepared by A. K. Tasker, Trinity-bldgs., New Bridge-st.—Scheme of additions proposed at Girls' High School in Tankerville-ter., and plans by Newcombe & Newcombe, Eldon-sq., have been approved. —F. E. Dotchin, 46, Grainger-st. West, architect for scheme of John Lunt & Co., contractors, Pilgrim-st., to erect 14 houses in flats and 8 self-contained houses in Walker-rd.—Plans by E. S. Errington, Grainger-st. West, been approved for in Falconer-st. of large garage for Hall, Forster & Co., chemists, Temple-st.—Percy L. Browne & Sons, Pearl-bldgs., Northumberland-st., prepared plans for offices in Forth-st. for J. H. McArdle, Ltd., Nune Moor-rd. No contracts let.—Longstaff & Son, builders, Castleside-rd., Newcastle, propose 16 houses in Prigmale-gardens and West-rd., and also 6 houses in Tantobie-rd.

Newcastle-on-Tyne.—Plans for alterations to "Strawberry Inn," for W. B. Reid & Co., been prepared by Hetherington & Wilson, 52, Westgate-rd. No contracts let.—Housing Committee recommends City Council to purchase more land on South Benwell estate, for housing purposes. R. G. Roberts, housing architect, 18, Cloth Market, Newcastle.—Methodist authorities contemplating new church on St. Anthony's estate. Sir George Lunn, Mansion House Chambers, Newcastle, working in conjunction with promoters for acquisition of site.

North Shields.—No contract yet been placed for 14 semi-detached houses for Whitelaw, Ltd., Tynemouth-rd. W. Stockdale, architect, 73, Howard-st., North Shields.—W. Moore, builder, Cartington-rd., proposes 24 houses with garages attached on Tynemouth Park estate. Plans by J. R. Wallace, 20, Northumberland-sq.

Nottingham.—P.A.C. proposes to extend relief station at Radford-rd., New Basford.

Nuneaton.—G. Cooper & Sons, builders, Midland-rd., propose 120 houses at Tuttle Hill.

Oldham.—T.C. propose 36 houses on Belgrave-rd.—T.C. propose shops on Abbey Hills estate.

Osmondthorpe.—Plans prepared for Methodist Sunday schools. Architects, Kirk & Tomlinson, Albion-st., Leeds. Tenders to be invited.

Rugby.—Franklin & Newman, architects, 22a, Regent-st., preparing plans for 11 shops.

Runcorn.—Rev. R. H. McAllister, of St. John's, Weston, propose Vicarage.

Ryton-on-Tyne.—W. H. Charlton & Sons, Pay Gate, Crawcrook, builders, are developing site near Woodside, for houses.

Shadforth.—No contracts placed for alterations to Parish Church to cost about £2,000. Wood & Oakley, architects, 9, Eldon-sq., Newcastle-on-Tyne.

Smethwick.—T.C. approved factory, Dartmouth-rd., Dartmouth, Auto Castings, Ltd.

Southam.—W. P. Webber, architect, 17, Grosvenor-rd., Banbury, for tea-room, restaurant and petrol service station at Shotteswell, for G. B. Mitchell. Contracts not let.

Stanley.—U.D.C. acquired site for additions to public library.

Stobswood Colliery.—Plans been prepared for miners' institute at colliery, and negotiations proceeding with view to securing grant from Miners' Welfare Fund. It is understood that Mr. F. H. Burn, managing director of Stobswood Colliery Co., Stobswood, is in charge of project. No contracts let.

Stockport—E.C. propose improvements at Houldsworth schools. Estimated cost £900.

Stockton Heath.—Members of Latchford Methodist Church (Rev. Cyril J. Thomas) proposing Sunday school.

Stoke-on-Trent.—Joule & Sons, Ltd., brewers, Stone, propose licensed house in Sandon-rd.

Stretford.—J. Maunders & Son, builders, 85, Derbyshire-lane, propose to lay out Lostock Hall estate, off Barton-rd. and Lostock-rd., for housing site.

Sunderland.—W. & T. R. Milburn, 17, Fawcett-st., are architects for 6 pairs houses on Grindon estate, 2 pairs on Chester-rd. and 8 pairs on other sites.

Sunderland.—Building expected to commence shortly on greyhound racing track at Grindon. Architects, Oliver & Roberts, 6, Broad-st.-place, London.

Tarves.—Ellon District Council recommended two blocks of two tenement dwellings.

Wakefield.—Bishop of Wakefield proposes restoration of roofs of nave and north nave aisle of Cathedral. Sir Charles Nicholson, Bt., F.R.I.B.A., architect, 2, New-sq., London, W.C.2. Estimated cost £6,000.

Walsall.—Members of Mellish-rd. Methodist Church propose Sunday school and institute.

Wallsend-on-Tyne.—Clarke Bros., builders, York-st., propose 10 houses in flats, Benton-way.—T.C. negotiating for purchase of land at Rosehill for housing purposes.—T.C. to press M.H. to sanction houses to complete lay-out of Bewicke estate.—R. Hood Haggie & Co., Newcastle, propose new buildings at Willington Gut. Architect for scheme, it is understood, has not been appointed.

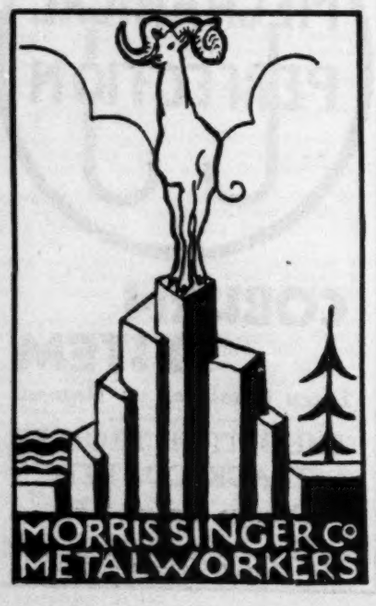
Wexford.—Corporation to borrow £12,600 for houses.

Whickham.—S. J. Stephenson, 2, Saville-place, Newcastle, prepared plans for lay-out of Northlands estate for 79 houses.

Whitley Bay.—In connection with proposal to erect pier at £30,000, Oliver & Roberts, of London, who are engineers for scheme, are applying to Board of Trade for provisional order.

Whitwell.—Whitwell Colliery workmen approved scheme for provision of pit-head baths at colliery, at £19,000.

Wolverhampton. — Captain E. C. Lavender, F.R.I.B.A. (Lavender & Twentyman), Waterloo-bldgs., Waterloo-rd., architect for alterations to school buildings, for Managers of St. Peter's Collegiate Church Senior Schools. Estimated cost, £13,000.



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"Phorpres"	2 11 3	Flettons, B'ln'se Best Blue Pressed Staffs	3 6 3
Flettons at King's Cross	2 11 3		9 5 0
Do., grooved for Plaster	2 13 3	Do. Bullnose	9 15 0
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"Phorpres" Whites (do.)	3 17 3
"Phorpres" Rustic Facing Bricks, delivered Central London per 1,000	3 12 3
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2½ in.	8 11 0
3 in.	10 3 0

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Best White Ivory and Salt Glazed Stretcher	21 0 0	D'ble Str'tch'rs	29 10 0
		D'ble Headers	26 10 0
		One side and two Ends	30 10 0
Headers	20 10 0	Two Sides and one End	31 10 0
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2½" " "	1 8	4" " "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 3	3" per yd. sup.	3 10
2½" " "	3 7	4" " "	4 4

HEMPSTEAD—KEYED TWO SIDES.

2" per yd. sup.	3 3	3" per yd. sup.	3 9
2½" " "	3 6	4" " "	4 3

	s. d.	
Thames Ballast	6 6 per yd.	delivered 2 miles radius Paddington.
Pit Ballast	5 6 " "	
Pit Sand	7 0 " "	
Washed Sand	7 6 " "	
½ in. Shingle	6 6 " "	
¾ in. Broken Brick	10 6 " "	
Pan Breeze	7 6 " "	

CEMENT.

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test	
In Jute Sacks (11 to ton)	£2 4 9
In Paper Bags (20 to ton)	2 6 0
Colorcrete No. 1 & 2 Coloured Rapid Hardening Portland Cement in 1 cwt. paper bags free (non-returnable) 20/- per ton above Portland Cement Price. "Snowcrete" White Portland Cement in 1 cwt. paper bags free (non-returnable) 190/- per ton.	
Alongside Vauxhall in 80 Ton Lots	
Jute Sacks (11 to ton)	1 17 9
Paper Bags (20 to ton)	1 19 0
Ferrocrete per ton extra on above	0 7 6
Vitrocrete per ton extra on above	0 7 6

NOTE.—Jute Sacks are charged 1s. 6d. each and credited 1s. 6d. each nett if returned in good condition within three months, carriage paid.

Super Cement (Waterproof) Paper Bags free	3 16 0
Roman Cement	6 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0

PLASTER.

Plaster, Coarse, Pink	3 0 0
" White	3 12 6
" Fine	4 12 0
Sirapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 5 0
Chalk Lime	2 5 0
Best Ground Blue Lias Lime	1 17 6
Hair per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d., if returned in good condition within three months carr. pd.

Stourbridge Fireclay in sacks 37s. 0d. per ton at rly. dep.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 10
BEER STONE—RANDOM BLOCK—	
Free on rail at Seaton Station, per ft. cube	2 3
Delivered free on rail Nine Elms, S.R. per ft., cube	3 1½

Selected approximate size one way, 1d. per cubic foot extra; selected approximately three sizes or for special work, 3d. per cubic foot extra.

PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4½
Do. do. delivered on road waggons at above stations, per ft. cube	4 5½
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
HOPTON-WOOD STONE—	
F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb.	s. d. 14 0
Sawn two sides	22 6
Sawn, three or four sides	27 6
CHILMARK—RANDOM BLOCK— At Nine Elms, per ft. cube	s. d. 3 11

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station London.

6 in. sawn two sides landings to sizes (under 30 ft. super)	Per ft. super	5 6
6 in. rubbed two sides, ditto	"	6 0
3 in. sawn two sides slabs (random sizes)	"	2 3½
2 in. to 2½ in. sawn one side slabs (ransom sizes)	"	1 6½
1½ in. to 2 in. ditto	"	1 3½

HARD YORK—
Delivered at any Goods Station, London.

Scappled random blocks	Per ft. cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super)	Per ft. super	5 1½
6 in. rubbed two sides, ditto	"	6 1½
4 in. sawn two sides slabs (random sizes)	"	3 1½
3 in. ditto ditto	"	2 8
2 in. self-faced random flags	Per yd. super	8 0

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 8s. 6d.; Moulded, 9s. 6d.; Cills, 10s. 0d.

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 × 11	£23 10	3 × 6	£17 10
4 × 9	22 10	3 × 11	19 10
4 × 8	21 0	2 × 11	19 10
4 × 7	19 0	3 × 9	19 10
3 × 8	18 0	2½ × 9	19 10
3 × 7	18 0	3 × 4½	17 10
2½ × 7	18 0	3 × 4	17 10

PLANED BOARDS.

1 × 11	£22 10	1 × 9	£21 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	16/-	1¼	25/-
¾	17/-	1½	27/6
1	20/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.
1	21/-
1¼	26/-
1½	27/6

MATCHING (BEST).

Inches.	per sq.
¾	16/-
¾	18/6
1	22/6

ins. BATTENS.	s. d.
¾ × 2 ..per 100 ft.	2 6
SAWN LATHS.	s. d.
Per bundle	2 3

HARD WOOD.

1 INCH AND UP THICK.

	£ s. d.
Average price for prime quality	
Dry Austrian Wainscot, per ft. cube	0 15 0
Dry American and/or Japanese Figured Oak, per ft. cube	0 12 0
Dry American and/or Japanese plain Oak, per ft. cube	0 10 0
Dry sq. edged Honduras Mahogany, per ft. cube	0 14 0
Dry log-cut Honduras Mahogany, per ft. cube	0 16 0
Dry Cuba Mahogany, per ft. cube	1 1 0
Dry Teak, per ft. cube	0 14 0
Dry American Whitewood, per ft. cube	0 10 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt.	4 7 0 to 5 10 0

SLATES.

First quality, slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station.

Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	25 0 0	18 by 10	15 12 6
22 by 12	25 0 0	18 by 9	13 15 0
22 by 11	22 10 0	16 by 10	13 10 0
20 by 12	22 0 0	16 by 8	10 7 6
20 by 10	19 7 6		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£4 7 0
ditto hand-made ditto	5 0 0
Ornamental ditto	5 8 6
Hip and valley tiles (per dozen) Hand-made	0 9 6
Hip and valley tiles (per dozen) Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted	£11 0 0
Plain Compound Girders	12 0 0
" Stanchions	15 0 0
In Roof Work	18 0 0

MILD STEEL ROUNDS.—To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
⅜ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
½ in.	11 0 0	⅞ in. to 2¼ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars Sizes ⅛in. to 6in. %	Genuine Wrot. (Puddled) Iron Tubes and Tubulars Sizes ⅛in. to 6in. %	Standard Fittings Sizes ⅛in to 6in. %	Standard Flanges Sizes ⅛in. to 6in. %
Gas	65	52½	57½	70
Water	61½	48½	52½	65
Steam	57½	45	47½	60
Galv. gas	52½	40	47½	60
Galv. water	47½	35	42½	55
Galv. steam	42½	30	37½	50

C.I. HALF-ROUND GUTTERS—London Price ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	11d.	1/5	5d.
3½ in.	11½d.	1/7	5d.
4 in.	1/0½	1/9	5d.
4½ in.	1/1½	2/-	6d.
5 in.	1/5	2/2	8d.

O.G. GUTTERS.

3 in.	1/1	1/11	5d.
3½ in.	1/2	1/11	5d.
4 in.	1/2½	2/-	5d.
4½ in.	1/4	2/4	6d.
5 in.	1/6½	2/8	8d.

RAIN WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches. stock angles.
2 in.	1/3½	1/9	2/7
2½ in.	1/4½	2/-	3/1
3 in.	1/8½	2/6	3/9
3½ in.	2/1½	3/-	4/4
4 in.	2/5	3/7	5/3

Connections—50 per cent. off above prices
Tonnage allowance—4 ton lots, 5 per cent.
2 ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Works.

	Pipe.	Bends, stock angles.	Branches. stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts.	2 0	1 6½	1 10½
2½ in. "	2 4	1 8½	2 4
3 in. "	2 6	1 10½	2 9½
3½ in. "	2 8	2 4	3 3
4 in. "	3 1	2 7½	3 9

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

	Pipe.	Bends, stock angles.	Branches. stock angles.
	s. d.	s. d.	s. d.
3i n. per yd. in 9 ft. lengths	3 10	4 3	7 0
cwt. qr. lbs.			
4 in. " 1 1 20	5 2	5 0	8 9
5 in. " 1 2 22	6 3	8 9	15 0
6 in. " 2 0 6	7 3	10 3	18 0

Gaskin for jointing 41/- per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common bars	10 0 0	to	10 10 0
Staffordshire Crown Bars—Good merchant quality	10 10 0	to	11 0 0
Staffordshire Marked Bars	14 0 0	..	15 0 0
Mild Steel Bars	9 0 0	..	10 0 0
Steel Bars, Ferro-Concrete quality, basis price	8 0 0	..	9 0 0
Hoop iron, basis price	11 0 0	..	12 0 0
" Galvanised	27 0 0	..	28 0 0
Soft Steel Sheets, Black—			
Ordinary sizes, to 20 g.	11 0 0	..	11 10 0
" " " 24 g.	12 0 0	..	13 0 0
" " " 26 g.	14 0 0	..	15 0 0
Sheets Flat Best Soft Steel, C.R. and C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	13 0 0	..	14 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	14 0 0	..	15 0 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	17 0 0	..	18 0 0
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	13 0 0	..	14 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	14 10 0	..	15 10 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	16 0 0	..	17 0 0
Sheets, Galvanised Flat, Best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	16 10 0	..	17 10 0
Best Soft Steel Sheets, 22 g. and 24 g.	18 10 0	..	20 10 0
Best Soft Steel Sheets, 26 g.	20 0 0	..	21 10 0
Cut Nails, 3 in. to 6 in.	15 0 0	..	16 0 0
(Under 3 in. usual trade extras.)			

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

	s. d.
Seamless Copper tubes (basis) per lb.	0 9
Strong sheet "	0 10
Thin "	0 11
Copper nails "	1 0
Copper wire "	0 11

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62/-	92/-	174/-	300/-	588/- per doz.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. **Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.**

PRICES CURRENT OF MATERIALS—(*contd.*).

RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
29/-	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	22/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH GRASS CLEANING SCREW.

	1½ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps....	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps....	35/-	45/-	66/-	126/- ,,

TIN.—English Ingots, 1/8 per lb. SOLDER.—Plumber's 9d., Tinmen's 10d., Blowpipe 11d. per lb.

LEAD, &c.

(Delivered in London.)	£	s.	d.
LEAD—Sheet, English, 4 lb. and up	19	10	0
Pipe in coils	16	10	0
Soil pipe	23	10	0
Compo pipe	24	0	0

NOTE.—Country delivery, 20s. per ton extra; lots under 3 cwt. 4s. per cwt. extra, and over 3 cwt. and under 5 cwt., 2s. 6d. per cwt. extra. Cut to sizes 4s. cwt. extra.

Old lead, ex London area, at Mills .....per ton } £10 0 0

PAINTS, &c.

		£	s.	d
Raw Linseed Oil, in pipes.....	per gallon	0	1	9
,, ,, ,, in barrels	,,	0	1	11
,, ,, ,, in drums	,,	0	2	2
Boiled ,, ,, in barrels	,,	0	2	3
,, ,, ,, in drums	,,	0	2	5
Turpentine, in barrels	,,	0	5	6
,, in drums (10 galls.)	,,	0	5	8
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)		45	0	0

Extra for 1-cwt. kegs over 5-cwt. casks is 5/9 cwt.

GENUINE WHITE LEAD PAINT.

"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganwyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered £ 65 s. 0 d. 0

		£	s.	d.
Red Lead, Dry (packages extra) ..	per ton	34	0	0
Best Linseed Oil Putty	per cwt.	0	13	6
Stoc. XD quality	ftn.	0	3	0

VARNISHES, &c.

		Per gallon.		
Oak Varnish	Outside	0	14	0
Fine ditto	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage	ditto	1	4	0
Best ditto	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Wire Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	0
Fine Copal Flatting	ditto	1	0	0
Hard Drying Oak	ditto	0	18	6
Fine Hard Drying Oak	ditto	0	19	6
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	12	6
Best ditto	ditto	1	2	6
Best Japan Gold Size		0	12	0
Best Black Japan		0	10	0
Oak and Mahogany Stain (water)		0	12	6
Brunswick Black		0	7	0
Berlin Black		0	14	0
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebene		0	9	0
Cuirass Black Enamel		0	7	0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per ft.		Per ft
15 oz. fourths..	2½d.	32 oz. fourths.....	6d.
15 ,, thirds ..	2¾d.	32 ,, thirds	8d.
21 ,, fourths ..	3½d.	Obscured Sheet, 15 oz...	3d.
21 ,, thirds ..	3¾d.	21 oz...	4½d.
26 ,, fourths ..	4d.	Fluted, 15 oz. 6½d., 21 oz.	9d.
26 ,, thirds ..	5½d.	Em'ld,15 oz. 4½d., 21 oz.	5½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED plate in CRATES OF STOCK SIZES.

	Per ft.
Rolled plate ⅛ in.	4½d.
Rough rolled ¼ in.	5½d.
Rough rolled ⅜ in.	5½d.
Figured, Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White..	5½d.
Ditto, tinted	8d.
Rolled Sheet	4½d.
White Rolled Cathedral	4½d.
Tinted do.	6½d.

Cast plate is same price as rough rolled.

"VITA" GLASS.	Per foot s.	d
Clear sheet—not exceeding 1 foot	1	0
Do. do. 2 feet	1	3
Do. over 2 feet	1	9
Polished plate—not exceeding 1 foot	1	6
Do. not exceeding 2 feet.....	3	0
Cathedral—not exceeding 1 foot	1	0
Do. larger sizes	1	6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1	0
3/16 in. Wired Georgian Design. Sizes up to 108 inches long by up to 24 inches wide	2	6

NEW BUILDINGS IN SCOTLAND

Arbroath.—HOUSING.—Mr. Arthur F. Cargill, 18, Hartcourt-road, Kirkcaldy, has been appointed by the T.C. as architect and measurer to act under the Burgh Surveyor in connection with the Council's future municipal housing developments.

Ayr.—ESPLANADE.—The T.C. are considering proposals for the provision of work for the unemployed, and it has been agreed that the south esplanade be extended at an approximate cost of £7,000, and that the work be done by direct labour.

Ayr.—HOTEL.—An application for an inn and hotel licence (provisional) for a new hotel to be erected on the lands of Cunning-park and Doonfoot-road, Ayr, has been granted by Ayr Burgh Licensing Court. The application was made by Mr. W. A. Davidson, accountant, Ayr, on behalf of a company to be formed. The new hotel is to cost £75,000.

Dundee.—BUILDINGS.—Plans and sections of the following proposed new buildings, etc., have been lodged at the office of the City Engineer:—Bingham-terrace: garage for Mr. P. B. Murray; Mr. W. M. Wilson, architect, 61, Meadowside. Brook-street and Hunter-street: alterations for Mr. E. H. Duffy; Mr. J. R. Dalgetty, architect, Liff. Broughty Ferry-road: garage for Mr. Scott Fyffe; Mr. W. M. Wilson, architect. Claypots-road: bungalow for Mr. Alex. Wood; Mr. W. B. D. Keith, architect, 10, Whitehall-street. Kelso-street: villa for Mr. W. Black; Mr. W. M. Patrick, architect, 26, Yeaman-shore. Nesbitt-street: bungalow for Mr. W. Black; Mr. W. M. Patrick. Park-road: additions for the Directors of Dundee Mental Hospital; Messrs. Maclaren, Soutar and Salmond, architects, 15, South Tay-street. Princes-street: alterations for Messrs. A. Massey and Sons, Ltd.; Mr. W. M. Patrick, architect. St. Salvador-street: alterations for Mr. J. Miller; Mr. W. M. Patrick, architect.

Forfar.—EXTENSIONS.—An extension to the present County Buildings at Forfar, at an estimated cost £3,200, has been approved by a joint meeting of the Chairman's Committee and the Property Committee.

Haddington.—HOUSING.—The Haddington T.C. has received a communication from the Department of Health approving of the tenders for the third development, comprising 42 houses, at Caponflat housing scheme.

Kirkintilloch. — BUILDINGS. — Dumbarton C.C. has presented to the Dean of Guild Court plans for the erection of new police court buildings. The site is at the junction of Townhead and Luggiebank-road. The plans show police offices on the ground floor and a court-room on the uper floor, entering from Luggiebank-road, and, in a separate block, are three dwelling-houses—for superintendent, sergeant and a constable. The plans were prepared by the County Architect, and the estimated cost, without furnishings, is about £8,000.

NEW CINEMAS

Dunoon.—Plans have been passed by the Dean of Guild Court for a new picture house in Argyle-street on a site at present occupied by shops and the Waverley Hotel. The promoter is Mr. J. Hamilton, cinema proprietor, Glasgow, for the Cowal Picture House Company, Ltd. Capable of seating 920 in the area and balcony, the estimated cost of the cinema is over £10,000. Plans were prepared by Mr. Eric Sutherland, L.R.I.B.A., 102, Bath-street, Glasgow.

Great Yarmouth.—The contract for the erection of the new Regal Cinema Theatre, Great Yarmouth, has been let to Messrs. John Balls and Sons, 221 and 223, Northgate-street, Great Yarmouth. The plans have been prepared by Messrs. Olley and Haward, 5, Queen-street, Great Yarmouth, in conjunction with Messrs. Yates, Cook and Darbyshire, 43, Great Marlborough-street, W.1.

Liverpool.—It is stated that the "Pavilion" Theatre has been taken over by a new company, British Theatre Corporation, and that it is shortly to be altered and redecorated.

Sutton.—Plans are in course of preparation by Mr. Robert Cromie, F.R.I.B.A., 35, Baker-street, W.1, providing for the erection of a cinema to seat about 2,000 at Sutton, for Mr. L. Morris, 91, Shaftesbury-avenue, W.1.

BUILDING AND ALLIED TRADES GOLFING SOCIETY.

The spring meeting of this Society will take place over the two courses of the Berkshire Golf Club at Ascot on Tuesday, May 9, next. Singles (medal play) and foursomes on handicap will be played. There will be prizes for each event, including a scratch prize for the singles. The cost of prizes had been taken into consideration in the day's charges.

The "Dyke" Cup: Concurrently with the singles, those members returning the best 20 net scores will be eligible to compete in the remaining half of this competition at the autumn meeting.

The charge for the day's play, which will include annual subscription, green fee, lunch, tea, caddy, and allowance for prize money, will be £1. Competitors will be able to commence their rounds at 9.45 a.m.; and can choose their own partners, otherwise they can be fixed up when they arrive. At the conclusion of play a meeting will be held as hitherto. Applications for new membership within the rules of the Society should be sent in now.

Those desiring to take part should reply, with remittance, as early as possible, giving lowest club handicap, not later than May 1, to the Hon. Secretary, Mr. Hubert H. Hill, W. G. Hill and Son, Monument Station-buildings, King William-street, E.C.4.

BUILDING TRADE WAGES IN SCOTLAND*

Following are grade rates authorised by the Scottish N.J.C. for Building Industry. The bricklayers in the Glasgow district have ½d. per hour extra. Painters, by ruling of the Scottish National Painters' and Decorators' Joint Council, have from January 1 new rates. Grade A towns, 1/6 per hour; Grade B, 1/5; Grade C, 1/4; Aberdeen has a special rate of 1/5½. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classifications ...	A	A¹	A²	A³	B	B¹	B²	B³
Craftsmen	1/6	1/6	1/5½	1/5	1/4½	1/4	1/3½	1/3
Labourers	1/2	1/1½	1/1½	1/0½	1/0½	1/-	/11½	/11½

Aberdeen	A	Dundee	A	Hawick	A³	Perth	A
Airdrie	A	Dunfermline	A	Helensburgh	A	Perthshire	A
Alexandria	A	Dunoon	A	Inverness	B	Peterhead	A
Arbroath	A³	East Lothian	A	Kilmarnock	A	Renfrewshire	A
Ayrshire	A	Edinburgh	A	Kincardineshire	A³	Rothesay	A
Bathgate	A	Falkirk	A	Kinross-shire	A	Roxburghshire	A³
Bo'ness	A	Forfarshire	A³	Kirkcaldy	A	St. Andrews	A
Broughty Ferry	A	Fort William	A	Lanarkshire	A	Selkirkshire	A
Clackmannanshire	A	Galashiels	A³	Leith	A	Stirling	A
Coatbridge	A	Glasgow	A	Midlothian	A	Stirlingshire, West	A¹
Dumbartonshire	A	Greenock	A	Motherwell	A	West Lothian	A
Dumfries	A³	Hamilton	A	Peeblesshire	A³	Wishaw	A
Dumfriesshire	A³						

* The information given in this table is copyright. The rates of wages in various towns in England and Wales are given on page 671.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	8	9
Add if in clay	„ „	1	0
Add for every additional depth of 6 ft.	„ „	0	6
Planking and strutting to trenches	per foot super	0	3
Do. to sides of excavation, including shoring	„ „	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundations 1 to 6	per yard cube	24	3
Add if in underpinning in short lengths	„ „	5	6
Add if in floors 6 in. thick	„ „	2	3
Add if in beams	„ „	2	9
Add if aggregate 1 : 2 : 4	„ „	9	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	„ „	2	0

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	27	0	0
Add if in stocks	„	7	0	0
Add if in Staffordshire blues	„	22	0	0
Add if in Portland cement and sand	„	1	5	0

FACINGS.

Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING

Neat flat struck or weathered joint	„ „	0	0	3

ARCHES.

Extra only to the price of ordinary brickwork :—				
Fair external in half brick rings	„ „	0	0	10
Axed in stocks	„ „	0	0	9
Rubbed and gauged jointed in putty camber or segmental	„ „	0	6	0

SUNDRIES.

Damp course in double course of slates breaking joint and bedded in Portland cement	„ „	0	0	11
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	„	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard super	4	6
Three-quarter-inch vertical damp course	„ „	9	6
Three-quarter-inch on flats in two thicknesses	„ „	6	0
Angle fillet	per foot run	0	3
Skirting and fillet 6 in. high	„ „	1	0

MASON.

York stone templates fixed	per foot cube	12	9
York stone sills fixed	„ „	22	0
Bath stone and all labour fixed	„ „	10	6
Beer stone and all labour fixed	„ „	15	0
Portland stone fixed	„ „	17	6
Chilmark stone fixed complete	„ „	16	6

SLATER.

Welsh 16in. × 8 in. 3 in. lap. including nails	per square	72	9
Do. 20 in × 10 in. Do. Do.	„	80	9
Do. 24in. × 12in. Do. Do.	„	90	0

CARPENTER AND JOINER.

Fir framed in plates	per foot cube	4	0	
Do. joists	„ „	4	6	
Do. roofs, floors and partitions	„ „	5	0	
Do. trusses	„ „	7	3	

	¾″	1″	1½″	2″
Deal rough close boarding per sq.	30/-	35/-	43/-	70/-

Flat centering for concrete floor, including struts or hangers	„	30	0	
Do. to beams	per ft. sup.	0	9	
Centre for arches	„	1	6	
Gutter boards and bearers	„	1	0	

FLOORING.

	¾″	1″	1½″	1¾″
Deal-edges shot per sq.	—	38/-	45/-	52/-
Do. tongued and grooved „	—	43/-	50/-	58/-
Do. matchings „	40/-	45/-	—	—
Moulded skirtings, including backings and grounds per ft. sup.	1/4	1/7	1/9	2/3

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super	1	10
Two Do. Do. Do.	„ „	2	1
Add for fitting and fixing	„ „	0	5
Deal cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights, average size		3	6

DOORS.

	1½″	1¾″	2″
Two-panel square framed per ft. sup.	2/1	2/3	2/5
Four-panel Do. „	2/4	2/6	2/9
Two-panel moulded both sides „	2/6	2/9	2/11
Four-panel Do. Do. „	2/9	2/11	3/2

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	12	6

		1″	1¼″	1½″
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	„	1/2	1/4	1/7
Add if cross-tongued	„	2d.	2d.	3d.

STAIRCASES.

	1″	1¼″	1½″	2″	2½″
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. x 1¼ in.	per ft. run	0	9
Mahogany handrail, average 3 in. x 3 in.	„ „	6	0
Add if ramped	„ „	12	0
Add if wreathed	„ „	24	0

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	15	0
Plain compound girders	„	18	0
Do. stanchions	„	20	9
In roofwork	„	26	6

RAIN-WATER GOODS.

	3″	4″	5″	6″
Half-round plain rebated joints ft. run	1/-	1/1	1/3	1/6
Ogee Do. Do. „	1/2	1/3	1/9	2/3
Rain-water pipes with ears „	1/3	1/10	—	—
Extra for shoes and bends each	2/9	3/11	—	—
Do. stopped ends „	1/1	1/4	1/9	2/6
Do. nozzles for inlets „	2/2	2/7	3/7	4/-

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	38	0
Do. do. flats	„	37	0
Extra labour and solder in coated cesspools	each	6	9
Welt joint	per ft. run	0	6
Soldered seam	„ „	1	3
Copper nailing	„ „	0	3

	½″	¾″	1″	1½″	2″	4″
Drawn lead waste per ft. run	11½	1/4	1/6½	2/5	2/8	—
Do. service „	1/3	1/9	2/-	3/-	—	—
Do. soil „	—	—	—	—	—	5/9
Bends in lead pipe each	—	—	—	—	2/6	6/-
Soldered stop ends „	0/9	1/1	1/6	2/3	2/10	—
Red lead joints „	0/10	0/11	1/2	1/9	2/1	4/3
Wiped soldered joints „	2/3	2/9	3/0	3/10	4/10	6/9
Lead traps and cleaning screws „	—	—	—	10/6	14/-	—
Bib cocks and joints „	6/4	9/7	14/-	—	—	—
Stop cocks and joints „	12/4	14/2	20/8	54/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	0
Do. Do. Sirapite	„ „	2	3
Do. Do. Keen's	„ „	3	0
Add saw lathing	„ „	1	4
Add metal lathing	„ „	2	4
(Not including hangers or runners, etc., for suspended ceilings.)			
Portland cement screed	„ „	2	2
Do. plain face	„ „	3	3
Mouldings in plaster	per 1 girth	0	1
One-and-a-half granolithic pavings	per yard sup.	5	3½

GLAZIER.

		s.	d.
21-oz. sheet plain	per foot sup.	0	6½
26-oz. Do.	„ „	0	7½
Obscured sheet	„ „	0	8
⅛-in. rolled plate	„	0	9
¼-in. rough rolled or cast plate	„ „	0	10
¼-in. wired cast plate	„ „	1	1

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	„ „	0	7
Plain painting, 1 coat	„ „	0	9
Do. 2 coats	„ „	1	2
Do. 3 coats	„ „	1	9
Do. 4 coats	„ „	2	4
Graining	„ „	2	3
Varnishing twice	„ „	1	9
Sizing	„ „	0	3
Flatting	„ „	0	7
Enamel	„ „	1	1
Wax polishing	per foot sup.	0	6
French polishing	„ „	1	2
Preparing for and hanging paper	per piece 2/- to 4/-		

*These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10% on the prime cost without establishment charges. A percentage of 1½ should be added for Employers Liability and National Health and Unemployment Act, and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TRADE NEWS

Rubber Flooring.

The equivalent of nearly a mile of Dunlop rubber flooring 36 in. wide has been ordered by the South Metropolitan Gas Company for their new head office building in the Old Kent-road, London. The new building has been designed under the supervision of the company's own architect, Mr. Ernest L. Pryor.

Stone Restoration.

The contract department of Messrs. Szerelmey, Limited, 273-7, Rotherhithe New-road, S.E., have been instructed to proceed with the restoration of the stonework at South Hackney Parish Church. They are also engaged upon similar work at the R.C. Church, Richmond, Yorks, under Mr. Wilfred C. Mangan, architect. In both cases the Szerelmey synthetic stone process has been adopted

An Insulating Board Contract.

A new leaflet, illustrating the four new warehouses which Messrs. W. H. Muller and Co. have erected at Rotterdam, has been issued by Messrs. MacAndrews and Forbes, Ltd., of Bush House, W.C.2. Over 250,000 sq. ft. of "Maftex" insulating board was used for insulating the roofs and walls. This board is stated to be a non-conductor of heat and cold, to prevent condensation and to have structural strength.

Electric Light Fittings.

The General Electric Co., Ltd., send us from Magnet House, Kingsway, W.C.2, a copy of their recently issued modern style electric light fittings catalogue. This list embraces the most modern practice in electric light fittings design. The whole of the models shown are made in the factories of the General Electric Co., Ltd., the metal work being of chromium plate, oxidised silver or copper finish, also in gilt and artistic coloured enamels. Etched, tinted and moulded glassware carrying designs in relief are also features of this new range of lighting fittings. The publication includes pendants, wall brackets, ceiling fittings, table and floor standards of a variety of designs, types and finishes.

Planning and Spending for Prosperity.

Vauxhall Motors, Ltd., have just finished extensions and alterations to their Luton works at a cost of £500,000. For some months alterations and revisions have been in progress, but for the really big scheme of reorganisation it was necessary to close down the works for three weeks. During this period nearly every machine in the extensive factory was repositioned and brought into a new scheme embracing the most modern methods of motor-car and commercial vehicle production. A visit to these works is full of interest. Everything moves according to plan, yet there is no hurry or flurry, although there are nearly 3,500 people at work there. Material comes in at one end of the works in the form of castings or raw metal, and emerges at the other end in the form of Bedford vans and trucks and Vauxhall cars. To-day Bedford trucks are used in every conceivable way by the building industry. In the Welsh mountains, or on Metropolitan housing estates, we learn that builders say this low-priced, long-service British truck is doing the job well, quickly and at low cost.

A Musical Quartet.

Competing at the London Music Festival Competition held at the Westminster Central Hall on March 22, the "Truscon Singers" were successful in winning the first prize for quartets, gaining a certificate of merit and cheque. The entry of this quartet into the musical competition world began in June last year, since when, in five competitions, they have gained four first prizes and one second. The "Truscon Singers" comprise Messrs. Jack Orr, H. W. Rose, T. Hawkins and D. Munro. The musical director is Mr. F. G. Windsor, and all are members of the London staff of the Trussed Concrete Steel Co., Ltd.

EMPIRE TIMBER RESOURCES

The timber resources of the British Empire were reviewed recently by Major J. R. Cosgrove, of the Forest Products Research Laboratory, Princes Risborough, in a lecture to the Planters' Group of the Royal Empire Society. At present about 90 per cent. of the timber imported into the United Kingdom comes from foreign countries. During recent years, however, there has been an increasing demand for Empire produce, largely as the result of the work being done by Princes Risborough, the Imperial Institute and other bodies which have been aided financially, and generally, by the Empire Marketing Board.

With the aid of lantern slides and the Board's films Major Cosgrove illustrated how some of the chief timbers are obtained, and the uses to which they are put. Empire timbers have been used in this country with success by the Southern Railway in its great dock extension at Southampton, by the London County Council on its housing estate at Becontree, by H.M. Office of Works in the new post offices being erected, whilst the Admiralty has found them most suitable for the decks of new cruisers. Considerable use has also been made of Empire woods in the new South Africa House, Trafalgar-square.

The requirements of the United Kingdom timber market are becoming better known to Empire sources of supply, and this should go far to increase imperial trade. India and several of the Dominions have appointed special representatives to keep their Governments informed of the varying demands of the trade, whilst the Secretary of State for the Colonies recently arranged for selected oversea forestry officers to study the requirements of the home markets. Four of these officers are just finishing their first six months' training at Princes Risborough.

Full particulars of the uses and conditions of Empire woods have been made available by the Empire Marketing Board in its "Handbook of Empire Timbers," which also indicates where further detailed information about them can be obtained.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modifications.*
¶ Denotes *accepted by H.M. Office of Works and H.M. War Office.*

Aberystwyth.—18 more houses, for the T.C.:—
8 houses at Caeffynnon—†David James, Porthcawl.
10 houses on the old Limekiln site at Trefechan—†J. C. Vaughan, Oswestry.

Antrim County.—Public elementary schools at Portnacumm, for the North Antrim E.C.:—
*J. Connolly, Armoy £2,532

Arnold.—64 additional houses on the Brookfield estate, for the U.D.C.:—

	Per house. Slated.	Tiled.
In pairs—		
A. Wayte & Son	£289 2 6	£289 15 0
H. Jew & Sons, Ltd.	290 0 0	290 10 0
Blocks of four—		
A. Wayte & Son	289 11 0	289 10 0
In pairs—		
H. Jew & Son, Ltd.	277 17 6	277 17 6
Blocks of four—		
H. Jew & Son, Ltd.	277 17 6	277 17 6

Baillieston.—Overhaul of 124 houses on the Crosshill site:—
Painter—*William Rae, Baillieston.
Overhaul of roofs, etc.—*Jas. Boult, Baillieston.

Bangor (N. Wales).—Premises, for the Alliance Assurance Co., Ltd. Messrs. Richard & Douglas Hall, F. & A.R.I.B.A., architects, Bangor:—
*Watkin, Jones & Son, Mount-street, Bangor.
Truscon Floors—*Trussed Concrete Steel Co., Ltd., London, S.W.7.

Bangor.—Extensions to Bangor Church Hostel, for the Board of Management. Mr. H. L. North, architect, Wern Isae, Llanfairfechan:—
*J. W. Owen & Hughes, Ltd., Llandudno.

Beddington and Wallington.—Eight houses on a site in Richmond-road, Beddington, for the U.D.C. Mr. S. F. R. Carter, engineer and surveyor, 42, Woodcote-road, Wallington:—

H. Hammond, W. Ewell	£4,922 0
C. Sayers & Son, Mitcham	4,100 0
R. H. Hitchings, Beddington	3,620 0
Dawson & Son, Beddington	3,208 0
F. W. Frazer & Son, Wallington ...	2,883 4
S. Shaw, Ltd., W.1	2,875 0
*Burnand & Pickett, Ltd., Wallington	2,862 0
A. E. Brown, W.13 (withdrawn)	2,686 0
Hawkins & Co., S.E.27 (withdrawn)	2,494 4

Biggar.—New police station and public assistance office, for the C.C.:—
Demolition, excavation, brick, mason, and drainage—*J. & J. Baxter, Lanark.
Plumber—*Works Department, Lanark.
Carpenter, joiner and glazier—*Shaw & Jardine, Lanark.
Plaster and concrete works, slater and roughcast—*T. Lithgow & Co., Lanark.

Birmingham.—Shopfront and internal alterations in High-street:—
*Cheltenham Shopfitting Co., Ltd., Cheltenham.

Birmingham.—Rebuilding work at G.W. Arcade and Temple-row West:—
*Arnold & Sons, Ltd., 34, Gold-street, Northampton and Birmingham.
Building Work—*W. C. Skinner, Birmingham.

Birmingham.—Eight modern shops with residential flats above at Five Ways, Edgbaston. Mr. Harold Scott, architect, 115, Colmore-row:—
Builders—T. Elvins & Sons.
Steelwork—C. Wade & Co.
(Both of Birmingham.)

Birmingham.—Church schools at the corner of Shirley-road and Rotteville-road, Acocks Green, for the Shirley-road Methodist Church. Mr. Arthur McKewan, L.R.I.B.A., architect, 115, Colmore-row:—
*Wm. Jackson (Langley Green), Ltd., Langley Green, Birmingham

Birmingham.—New Congregational Church and Church Schools on Stratford-road, Sparkhill. Messrs. Bidlake & Knight, F.R.I.B.A., architects, 5a, Temple-row:—
Main contractors—
*C. Bryant & Sons, Whitmore-road, Small Heath, Birmingham.
Asphalting—
*Limmer & Trinidad Lake Asphalt Co., Ltd., 2, Ludgate-hill, Birmingham.

Brechin.—Horses in the City-road, for the T.C.:—
Mason—
*— Rennie £713 19 5
Joiner—
*D. Adams 521 18 4
Plaster—
*F. Hood, Laurencekirk 116 17 9
(Others of Brechin.)

Blyth.—200 houses, for the T.C. Mr. L. Leeper, Borough Engineer:—

‡Direct Labour £46,000

Bolton.—Elementary schools for junior scholars at Deane, for the Catholic Authorities. Rev. Thomas McGrath, P.P., St. Ethelbert's, Deane. Mr. J. Baxendale, architect, 18, Penarth-road, Deane:—

*R. Vanston, Bolton.

Bolton.—Alterations and extensions, including grain silo and retaining walls, etc., and erection of number of shops with elevations to Manor-road, for Messrs. H. Whitehurst & Sons, Ltd. Messrs. Thomas E. Smith & Son, architects, Fold-street:—

Builders—W. Townson & Sons, Ltd., Bolton.
Bricklayer—S. Talbot & Sons, Bolton.

Brierley Hill.—Painting various Council houses on the housing estates, for the U.D.C. Mr. J. York, surveyor:—

*Vale & Atwood £2,040 10

Bury.—Store in Chirmside-street, for the T.C. Mr. S. J. Chadwick, Borough Surveyor:—

*John Bottomley.

Bury.—Block of business premises in Rock-street, for the T.C. Borough Engineer, Bank-street:—

General buildings—*J. Tinline, Ltd., Parker-street, Bury.
Steelwork—*J. Webb & Sons, Ltd., Irwell Forge, Bury.
Terra cotta—*Shaw's Glazed Brick Co., Ltd., Whitebirk, Darwen.
Concrete floors — *Concrete, Ltd., Stourton, Leeds, 10.
Metal windows — *Crittalls Mfg. Co., Ltd., Manchester.

Bury.—General shelter lavatories at the Hoyle playing fields, for the T.C. Mr. J. Chadwick, Borough Engineer:—

Builder—Otto Elton.
Plumber—George Brown & Sons.
Slater—P. Ratledge & Sons.
(All of Bury.)
(Estimated cost, £1,600.)

Buxton.—Alterations and improvements to the café kitchen and cloakroom in the Pavilion, for the T.C.:—

*J. Robinson & Sons, Buxton.

Carlow.—63 houses, for the U.D.C.:—

*Thos. Thompson & Son, Ltd. £17,468

Chorley.—New Sunday School, for the Rev. A. C. Metcalfe of the Trinity Methodist Church. Mr. F Howorth, L.R.I.B.A., architect, Theatre-street, Preston:—

*Baxendale Brothers (Chorley), Ltd., Chorley.
(Estimated cost £8,500.)

Clonakilty.—16 houses, for the U.D.C.:—

*E. Walsh, Bandon £4,399

Colchester.—New furnishing premises in Crouch street, for Messrs. M. Jarmin, 1, George-street. Mr. Thomas H. Baker, L.R.I.B.A., architect, 5, Headgate-court, Head-street:—

*W. Trudgett, 52a, Butt-road, Colchester.

Crowborough.—Extensions to the Crowborough Cottage Hospital. Mr. Richard C. Ball, L.R.I.B.A., architect, Broadway-chambers:—

*Connor Bros., Station-road, Crowborough.
Truscon Floors—*Trussed Concrete Steel Co., Ltd., London, S.W.7.

Darlington.—Additions to the headquarters of the Northern Echo Newspaper Co., Skinnergate, Darlington. Mr. H. B. Richardson, architect, 3, Skinnergate:—

*McKenzie Bros., Duke-street, Darlington.

Derby.—Nurses' home at the City Hospital. Mr. T. H. Thorpe, F.R.I.B.A., architect, 23, St. James-street:—

*W. Ford & Sons, Summer Hill, Derby.
Reinforcement for Floors—*Trussed Concrete Steel Co., Ltd., London, S.W.7.

Ealing.—Store sheds at Waxlow-road, for Messrs. H. J. Heinz & Co., Ltd.:—

*E. H. Burgess, Ltd., 20, Grosvenor-gardens, S.W.1.

Ealing.—Alterations for the Home and Colonial Stores, Ltd., at 110, Northfield-avenue:—

*Nicholls & Partners, 15, Beehive-place, Stockwell, S.W.9.

Ealing.—Additions to 52, Brunswick-road, for Mr. S. K. Arnold:—

*London & Provincial Building Co., Greystoke Estate Office, Ealing, W.5:—

Framingham (Norfolk).—House. Messrs. Fredk. W. Skipper & Son, F.R.I.B.A., architects, 55, London-street, Norwich:—

J. Anderson & Son	£1,437
Edward Baldwin	1,422
Bush Builders (Norwich), Ltd.	1,400
R. G. Carter	1,381
F. Podd & Son	1,339
*F. R. Hipperson & Son	1,300

Freckleton.—Dance hall and café in Lytham-road. Mr. A. E. Buckley, architect, Clifton-square, Lytham St. Annes:—

Builder—E. Bowman.
Slater—W. Jackson.
Plumber—R. Denham.
Plasterer—S. Sutton & Son.
Painter—W. Butterworth, Freckleton.
(Rest of St. Annes-on-Sea.)

Glasgow.—New building in St. Enoch-square. Mr. Thos. Somers, City Architect:—

Excavation, brick and mason—*J. S. Train & Co., Ltd., 153, St. Vincent-street.
Joiners—*J. Cochrane & Co., Ltd., Dobbies Loan.
Steel—*P. & W. McLellan, 129, Trongdate.
Plumbers—*R. S. Renfrew & Sons, North-street.
Glaziers—*A. S. Wright & Co., Dorset-street.
Plaster—*Weymss, 353, Pollockshaws-road.
Tile and terrazzo—*Tat, Menzies & Bertoia, 11, Westwood-road.
(All of Glasgow.)

Inverurie.—Houses on the North-street site, for the T.C.:—

Mason work—*G. Duncan & Son, Inverurie.
Joiner work—*Wm. Bruce, Ellon.
Plumber work—*A. Smith, Inverurie.
Painter work—*Wm. Smith, Aberdeen.
Plaster work—*P. MacPherson, Inverurie.
Slater work—*Wm. Rhind, Inverurie.

Keighley.—Stand and lay-out of ground, for the Keighley Rugby Football Club. Messrs. R. P. Broster & Sons, architects, Craven Bank-chambers, North-street:—

*H. V. Robinson, Ltd., Keighley.
(Estimated cost £1,500.)

Leeds.—Alterations to buildings at Goots Park, for the Parks Committee. Mr. J. E. Acfield, City Engineer:—

*J. Tomlinson & Sons, Leeds £1,221

Leeds.—180 A3 type houses on Middleton housing estate, for the T.C. Mr. J. E. Acfield, City Surveyor:—

*F. Clough, Wakefield £46,710

Leicester.—18 non-parlour houses at Oadby, Leicester, for Mr. H. J. Burnham. Messrs. Barton & Everitt, architects, King's-chambers, 1, Bowling Green-street:—

Bowles & Son, Leicester	£6,687
R. J. Jewell & Son, Nottingham	5,441
J. Bentley & Co.	5,314
A. E. Tate & Co.	5,291
G. Duxbury & Son	5,290
Wright & Co.	5,276
P. Beck	5,237
J. Freer & Sons	5,168
A. E. Cox & Co.	5,151
*Bodill & Sons	5,110

(Remainder of Leicester.)

Leicester.—Ten bungalows at Beaumont Leys, for the City Unemployment Committee. Mr. A. T. Gooseman, Borough Surveyor:—

*J. C. Kellett & Son, Leicester.
(Estimated cost £1,360.)

Just a scrub . . . . a rinse

and the work has dried quickly ready for paint

The quick and efficient way in which "Manger's" cleans all paintwork is greatly appreciated by Decorators.

Quicker final drying, non-greasy finish; consistent quality and strength are further points in favour of "Manger's"; also its specially lined fit-the-pocket carton.

Varnished paper, French polish, etc., can be stripped much more easily and considerably cheaper by using a strong solution of "Manger's."

Prove its excellence at our expense. Send for free sample.

B4

Leyton.—Terra-cotta facing work in connection with the new public baths, High-road, for the T.C.:—

George Jennings (Lambeth), Ltd., Hanover-square, W.1.	£6,127	0	0
Doulton & Co., Ltd., Lambeth, S.E.1	5,276	0	0
Gibbs & Canning, Ltd.	4,995	18	6
Leeds Fireclay Co., Ltd., Wortley, Leeds	4,971	18	0
*Shaws Glazed Brick Co., Ltd., Whitebirk, Darwen	4,829	4	6

Liverpool.—Extensions to the buildings, for the Board of Management of the Lourdes Hospital, Paul-street, conducted by the Society of the Poor Servants of the Mother of God. Mr. Anthony Ellis, L.R.I.B.A., architect, 24, The Temple, Dale-street:—

*C. J. Doyle, Liverpool.

Llandovery.—Chapel at Llandovery College, for the Board of Governors. Mr. W. E. Ellery Anderson, F.R.I.B.A., architect, Morningside, Prestbury:—

*J. Evans, Cardiganshire.
(Estimated cost £3,000.)

Manchester.—Alterations to Frascati Restaurant, Ltd., 181, Oxford-road and Rosamond-street, Chorlton-upon-Medlock, for Mr. W. Grenelli. Mr. E. A. Newton, architect, 1, Cooper-street:—

*J. F. Moore, Ltd., Eccles

Manchester.—Additions to premises and reconstruction of a portion of premises after fire, 334/344, Stockport-road, and Etruria-street, for Messrs. Riding's Reliance, Ltd. Messrs. Matley Brotherton & Mills, architects, 11a, Old Millgate:—

Builders—Tinker & Young, Ltd.
Brickwork—T. Campion & Sons, Ltd.
Steelwork—Robinson & Kershaw, Ltd.
(All of Manchester.)

Midleton.—26 houses, for the U.D.C.:—

*J. J. Coffey, Midleton £7,756

Milltown.—12 houses at Churchtown-road, for the Irish Sailors' and Soldiers' Land Trust:—

*S. Henly & Sons, Blackrock £7,268 11

Nairn.—One block of single story houses of three apartments each at Moss-side, Tradespark, for the T.C.:—

Mason—*J. R. Pert & Sons, Ltd., Montrose.
Carpenter—*A. Tulloch, Nairn.
Slater—*J. Gray, Inverness.
Plumber—*Boyne & Martin, Inverness.
Plasterer—*A. Shepherd, Nairn.
Painter and Glazier—*T. Tulloch, Inverness.

Newcastle-under-Lyme.—146 houses in Knutton-road, for the T.C. Mr. A. Cotton, Borough Surveyor:—

*C. Hodnett £40,880

North Queensferry.—Houses:—

Mason and brickwork—			
*F. Walker, Kirkcaldy	£2,390	10	8½
Carpentry and joinery—			
*H. & J. Philip, Ltd., Dunfermline	1,370	4	4
Plumber—			
*Jas. Mackay, Dunfermline	870	8	11½
Plaster and stone work—			
*Wm. Kennedy & Son, Cowdenbeath	527	4	11½
Slater and roughcast—			
*Wm Stewart & Sons, Crossgates	616	7	9½
Painter—			
*Wm. F. Russel, Cairneyhill	131	11	5½

Portsmouth.—New mortuary block, for the T.C.:—

A. E. Porter & Son	£1,284	0	0
Roy Corke, Ltd.	1,284	0	0
W. Ward	1,260	3	2
S. A. Evans	1,249	0	0
A. H. Clear & Sons	1,233	16	0
John Lay & Co. (Portsmouth), Ltd.	1,195	0	0
Green & Foley	1,195	0	0
Samuel Salter (Portsmouth), Ltd.	1,193	0	0
Howe & Bishop	1,173	0	0
John Hunt, Ltd.	1,125	0	0
*Frank Bevis, Ltd.	1,100	0	0

Rutherglen.—Overhaul of houses on the Eastfield site, Rutherglen:—

Painter work, etc.—*Hillan & Allan, Bothwell.
Overhaul of roofs, etc.—*A. Dunn, Beilahill.

St. Asaph.—New Council offices, including a council chamber and a court room, on a site opposite St. Asaph Cathedral, for the R.D.C.:—

*Edward Williams & Son, Dyserth £4,295

Saul.—Erection of Church of Ireland. Mr. Henry Seaver, architect, Belfast:—

*Cairns Bros., Belfast £2,500

Smallburgh.—For (*a*) houses at Dilham, East Ruston and Ridlington; and (*b*) houses at Sloley:—

(*a*) *Tooley & Youngs.
(*b*) *Yaxley Bros.

Southport.—New central premises in Eastbank-street, for the Southport Co-operative Society, Ltd. Mr. W. A. Johnson, F.R.I.B.A., architect, Balloon-street, Manchester:—

*Society's own Building Dept., Vere-street, Salford.
Truscon Floors—*Trussed Concrete Steel Co., Ltd., London, S.W.7.

Stamford.—32 non-parlour type houses on New Cross-road housing site, for the T.C. Borough Engineer:—

W. E. Brittain, London	£10,235 0
F. W. Porter, Colsterworth, Grantham	9,570 0
T. J. Jupp, Junr., Wisbech	9,395 0
Lee Bros. (Enfield) & Co., Enfield	9,290 0
E. Clarke & Sons, Melton Mowbray	9,226 0
Building and Public Works Construction Co., Swindon	9,100 0
R. E. Brown & Co., Ltd., Grantham	8,967 18
J. W. Barber, Peterborough	8,832 0
Jaques & Greeves, Ltd., Doncaster	8,636 0
†R. Hustwayte, Haydn-road, Sherwood, Nottingham	8,393 0

Swansea.—Alterations and additions to the High School for Girls, for the Corporation:—

*L. H. Samuel, of Landore-yard, Swansea £14,969 14 11

Swansea.—Painting of Corporation houses, for the Corporation:—

Trewyddfa (53 houses)—
*Edgar Morgan £170 15 0

Cwm-road (50 houses)—
*Borough Architect 130 8 4

Townhill (2nd contract, 110 houses)—
*Ben Evans & Co., Ltd. 391 10 0

Mayhill (5th contract, 50 houses)—
*Borough Architect 150 0 0

Mayhill (6th contract, 50 houses)—
*Borough Architect 190 0 0

Mayhill (7th contract, 35 houses)—
*Ben Evans & Co., Ltd. 122 15 0

Mayhill (12th contract, 101 houses)—
*Borough Architect 303 0 0

6 sample cottages and 8 Mayhill villas—
*Evan Thomas 60 0 0

Fforestfach (3rd contract, 41 houses)—
*W. Challice 133 6 0

Tadcaster.—Rebuilding of the "Leeds Arms" on the Tadcaster-York main road, for Messrs. John Smith's Tadcaster Brewery Co., Ltd.:—

*Carr & Kettlewell.

Usworth.—Caretaker's house on the Miners' Welfare ground. Mr. E. Graham, architect, Coal Trade Office, Newcastle-on-Tyne:—

*Bruce & Longstaff, New Washington... £534

Washington.—Further 48 houses on the Heworth Road estate, for the U.D.C.:—

*Direct Labour (24 houses) £5,772
*J. Barrow, Jarrow (24 houses) 5,777

Watford.—100 houses on the Leavesden Green housing site, for the T.C.:—

*Stewart & Co. £27,858

Wolverhampton.—18 houses on Willenhall-road estate, for the T.C.:—

*A. M. Griffiths & Son, Ltd., Wolverhampton £3,324

York.—Unclimbable fencing at the Tang Hall playing fields, for the Corporation:—

*Bayliss, Jones & Bayliss, Ltd. £387

Weston-super-Mare.—Shopfronts in black alabaster and stainless steel. Messrs. Leete & Darby, architects:—

*Cheltenham Shopfitting Co., Ltd., Cheltenham.

Fire Prevention.

We have received a copy of a booklet containing a series of Fothergill lectures on various aspects of fire prevention, viz.:—"Fire Fighting," by Commander A. N. G. Firebrace, R.N. (ret.), Divisional Officer, London Fire Brigade; "Safety of Life from Fire," by Lieut.-Col. Guy Symonds, D.S.O., M.I.Fire.E., Fire Adviser to the Home Office; "The Design and Construction of Buildings in Relation to Fire Risks," by Maurice E. Webb, D.S.O., M.C., F.R.I.B.A., President, Advisory Council of the Building Industry. Summarised reports of these interesting and valuable lectures were given some time ago in our columns, and readers will no doubt be glad to have the full reports in a handy and convenient form. Copies, price 2s. 6d., can be obtained on application to the Secretary, Royal Society of Arts, John-street, Adelphi, W.C.2.

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